

Private Equity and Principal Investing
Current Market Practice, Risk Management & Capital Treatment

OPSRA – Cross Firm Project

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EXECUTIVE SUMMARY

Introduction and Scope of Review

OPSRA staff performed a review of the CSE firms' investment activities that could require banking book equity treatment for regulatory capital purposes because of longer holding periods, reduced liquidity, or other factors. We met with business and control personnel at each CSE to develop an understanding of 1) the relevant businesses and products, 2) how the risks inherent in these businesses are managed, and 3) the level of capital held against these investments. In addition to frequent discussions during regularly-scheduled monthly meetings, these interactions included one day on-site at each firm, and subsequent follow-up as needed.

Our intent was not to examine all trading activities in instruments that are less than highly liquid and/or with market risk characteristics that may not be well captured by value-at-risk techniques. The scope of such an exercise would include many businesses, some of which have been or will be discussed as part of other OPSRA projects—e.g., mortgage securitization activities (including retained interest in residual securities), hedge fund derivative products, etc. The focus of this review, rather, is on private equity and private equity-like investments.

For managing growth and liquidity, among other purposes, the CSE firms each utilize some method for decomposing their balance sheets. Through this process, each firm has a segment on the asset side of its balance sheet dubbed “Alternative Investments,” “Investments,” or “Principal Investments.” Broadly speaking, such segments are intended to encompass equity or equity-like investments in companies, funds, or other assets that are held with the intent to eventually monetize or exit the investment, but that cannot be exited in the short run.¹ Classifying assets along these lines, versus as “trading inventory” or “lending,” is not entirely straightforward. Distinguishing between “equity-like” investments and certain debt instruments requires some consideration, as does distinguishing between instruments that are less liquid versus those that cannot be exited, for example due to contractual terms.

We have included the following activities as part of our scope:

- Direct Private Equity Investments and Seed Capital in Internal Private Equity Funds
- Seed Capital in Other Internal Funds
 - Real Estate Funds
 - Mezzanine Funds
 - Hedge Funds (and Fund-of-funds)
 - Traditional/Mutual Funds
- Investments in Third Party Funds
- Direct Investments in Physical Assets and Real Estate for the Primary Purpose of Capital Appreciation
- Restricted Equity Positions and Private Investments in Public Companies (“PIPEs”)

The CSE firms manage various types of investment funds that accept money from outside investors, thus earning management and incentive (or performance) fees. “Seed capital” is

¹ The CSE firms often like to describe their trading and securitization activities as being “moving, not storage” businesses. Principal Investing, on the other hand, is more akin to the storage business.

simply the equity the firms invest in funds alongside third party investors. Differentiating between “direct” private equity investments and private equity seed capital is only important in that some firms make private equity investments through businesses other than asset management or merchant banking, which may not be through a fund. Several CSEs also invest in third party hedge funds and private equity funds—activities motivated by various factors such as receiving a stake in the fund’s fee income, facilitating other business opportunities with the fund, etc. Separately, the firms sometimes invest directly in physical assets or property/real estate, such as power plants or golf courses. While the purchase of such assets may not initially represent an investment into an entity such as an operating company or fund, this activity can entail a private equity-like investment strategy. Finally, restricted equity and PIPE positions are investments in public companies that can not be sold or hedged.² At the CSEs, these positions often result from what were originally private equity investments, and are created as the company is taken public.

We did not include as part of this review positions held by distressed debt and similar proprietary trading desks. Such desks purchase debt or receivables of individual companies, or large portfolios of non-performing corporate or consumer loans. Despite being held in the trading division, such assets can trade with little frequency. In terms of ability to exit, these positions fall across a spectrum. For instance, desks do trade out of many distressed bond and bank loan positions. Meanwhile, positions in large portfolios of consumer receivables (e.g., credit card receivables) and impaired mortgages are typically held to maturity—i.e., the desk’s internal rate of return is realized completely through the underlying cash flows, rather than through asset sales. One CSE firm does include most of its positions in these portfolios of non-performing loans as investments internally, while others are applying similar regulatory capital treatment without assigning the investments classification.

Unlike other cross-firm reviews OPSRA has performed in the past (e.g., event-driven lending), principal investments are not originated from or owned by one central business unit at the CSEs. Furthermore, similar types of investments can be sourced from and/or housed in various businesses, spanning across Merchant Banking, Asset Management, Trading, and Investment Banking divisions. Firms also make “corporate” or “strategic” investments, for which P/L may not belong to one particular desk. Consequently, the risk management of principal investments can be quite decentralized throughout a CSE firm.

Some CSE principal investments are entered into for the primary purpose of achieving capital appreciation, while others are entered into primarily for other business facilitation or customer relationship purposes. Both types of investments are discussed herein. We do not discuss acquisitions done for the purpose of expanding the firms’ ongoing business operations—e.g., the purchase of a mortgage origination platform for vertically integrating a mortgage securitization business. While the distinction between these types of investments and those made for business facilitation purposes might not seem initially clear, the differentiating factor is the explicit intent to eventually exit or monetize the investment.

² Restrictions concerning the hedging of restricted positions are privately negotiated. Generally speaking, for the purposes of this review we are interested in restricted positions that can not be hedged.

Key Findings

Business Overview

The private equity market has experienced substantial growth over the past few years.

Two common metrics used to gauge growth in the private equity market include (1) the total amount of uncalled capital outstanding and (2) the amount of new capital raised during a given period. From June of 2003 through June of 2006, the total amount of capital committed, but uncalled, increased substantially from \$473 billion in 2003 to \$607 billion in 2006.³

Additionally, private equity funds raised \$432 billion in new commitments during 2006, a 38% increase over 2005. Preliminary indications are that private equity funds raised \$88 billion in new commitments during the 1st quarter of 2007. [See Page 6 for additional detail.]

Since 2005, there has been a noticeable trend toward increasingly large private equity funds. This can easily be seen in buyout funds where there has been a substantial concentration of commitments in the five largest buyout funds, with the top three funds being considerably larger than even the fifth largest fund. The largest buyout fund is Goldman Sachs' GSCP VI at \$20 billion, with the third and fifth largest funds at \$15 billion and \$9 billion respectively. [See Page 7 for additional detail.]

Similar to the rest of the principal investing market, the portfolios of CSE firms have increased dramatically. From year-end 2005 through year-end 2006, total balance sheet amounts for principal investing at the CSE firms increased by 79% from \$21.7 billion in 2005 to \$38.7 billion in 2006. All areas of investment grew significantly with Goldman Sachs and Merrill Lynch experiencing the largest growth. [See Page 9 for additional detail.]

Firm-by-Firm Growth in Principal Investing (Year-end 2005 to Year-end 2006)

	<u>Bear</u>	<u>Goldman</u>	<u>Lehman</u>	<u>Morgan</u> ¹	<u>Merrill</u> ²	<u>Total</u>
<i>(\$ Change, in millions)</i>						
Merchant Banking Fund Seed Capital	-\$4	\$1,734	\$1,179	\$286		\$3,195
Traditional and Hedge Fund Seed Capital	\$138	\$129	\$505	\$1,164	-\$237	\$1,699
Investments in Third Party Funds	\$228	\$252	\$323	-	\$1,337	\$2,140
Direct Investing/Other	-\$173	\$4,649	\$1	\$1,273	\$3,335	\$9,085
Subtotal	\$189	\$6,764	\$2,008	\$2,722	\$4,435	\$16,119
<i>(% Change)</i>						
Merchant Banking Fund Seed Capital	0%	72%	118%	53%		67%
Traditional and Hedge Fund Seed Capital	60%	97%	204%	469%	-100%	155%
Investments in Third Party Funds	84%	231%	99%	-	83%	92%
Direct Investing/Other	-39%	96%	1%	69%	62%	72%
Subtotal	11%	90%	117%	104%	61%	77%

Notes:

¹ Data for Morgan investments in third party funds are not separately available for 2005. These amounts are therefore included in the other three investment categories. For November 2006, total third party fund investments were \$269 million.

² Merrill currently manages no traditional funds or hedge funds, due to the merger of Merrill Lynch Investment Management (MLIM) with Blackstone in 2006.

Additional CSE Firm Trends:

- Of the five CSEs, Goldman Sachs has invested the most seed capital into internally managed merchant banking funds (\$4.15 billion currently).

³ Private Equity Intelligence Ltd., "The 2007 Global Fundraising Review"

- The most recent Goldman Sachs buyout fund, GSCP VI, which closed fundraising in 2007, is a \$20 billion fund, making it the largest in the world.
- From the inception of the business through 2006, Goldman has raised over \$22 billion in investor capital through the real estate segment of its merchant banking division.
- Morgan Stanley is the largest manager of institutional real estate funds, with nearly \$50 billion in AUM in 2006. However, Morgan's own investment in these funds as of year-end 2006 was only \$608 million.
- Merrill Lynch is the only CSE firm that does not currently manage any sort of institutional merchant banking funds.
- Merrill Lynch is a very active investor in third party hedge funds, with \$4.2 billion invested as of year-end 2006. These investments are motivated primarily by the goal of building the overall relationships with the funds, and to a lesser extent as a means of generating fee revenue (as Merrill distributes some of these hedge fund products to its high net worth and institutional investor customers).
- With respect to overall growth, Goldman has basically doubled in size while other CSE firms, such as Lehman and Merrill, have flagged Principal Investing as a primary growth area.

[See Page 9 and Appendices A – F for additional detail on firm specific trends.]

Risk Management

Market risk management does not play as large a role in private equity and principal investment as it does for other products. This is because these investments are not complex like derivative or other fixed income portfolios in that they do not involve complicated payoffs or explicit exposure to complex combinations of market risk factors. Furthermore, compared to other trading businesses, principal investing risk profiles evolve rather slowly over time, there are relatively few positions, and the valuations of the positions change infrequently. Consequently, the performance of detailed deal-by-deal due diligence, and committee approval serve as the key risk controls in this space. [See Page 11 for additional detail.]

Similar to market risk management, liquidity risk management is also fairly straightforward. Principal investments, which can not be financed in secured debt markets, are funded 100% with long-term cash capital at the CSE firms. That is, these positions are funded with some combination of equity and long-term debt, which is generally defined as debt with a maturity of one year or greater. [See Page 13 for additional detail.]

Regulatory Capital

The Basel Standard and the U.S. Notice of Public Rule making (“NPR”) provide less than full clarity on the capital treatment for private equity and principal investing. The three main issues are (1) which risk-weight to apply to assets when using the simple risk-weight approach—both documents discuss the application of 100%, 150%, 300%, or 400% risk-weights, under various scenarios, with wide latitude for exceptions; (2) whether or not to apply a 10% materiality threshold, with little guidance on how to apply the threshold; and (3) whether a ten-year transition period should apply, which can result in a 100% risk-weight being applied. The ten-year transition period is discussed in Basel II and was in an Advance NPR, but was not mentioned in the final NPR. Additional areas needing clarification include how to treat

unfunded commitments and whether or not traditional funds (e.g., mutual funds) should receive the same capital treatment as private equity funds. [See Page 14 for additional detail.]

The lack of clarity in the Basel Standard and U.S. NPR has led to various interpretations by the CSE firms. As a result, some firms, due to the 10% threshold or “grandfather clause,” apply 100% to risk-weighted assets (“RWA”) resulting in 8% capital, while others apply higher risk-weights, resulting in higher capital charges. The table below summarizes the CSE firms’ current regulatory capital treatment of investments. [See Page 14 for additional detail]

	10% Threshold	Grandfathering	Risk-Weighted Assets (RWA)				Total RWA	Total Capital Charge
			100%	150%	250%	300%/400% ¹		
Bear Stearns	Yes	No	Positions below 10% threshold			Positions above 10% threshold	100%	8%
Goldman Sachs	No	Yes	Merchant Banking, Asset Mgmt, Sumitomo, ICBC		Trading Division Principal Investments		273% ²	22%
Lehman Brothers	No	Yes	Positions held prior to CSE approval			Investments made after CSE approval	230%	18%
Merrill Lynch	No	Yes	"Non-equity" principal investments	"Equity-like" principal investments			146% ³	12%
Morgan Stanley	Yes	No	Positions below 10% threshold			Positions above 10% threshold	100%	8%

Notes:

- ¹ A 300% risk-weight is used for publicly traded equity investments and 400% is used for all other equity investments.
- ² Goldman's total RWA is 273% despite the firm's application of 100% or 250% RWA due to the deduction of \$980 million from regulatory capital on several consolidated hard assets and equity method investments. Removing this \$980 million deduction from total regulatory capital results in Total RWA of 190% and a Total Capital Charge of 15%.
- ³ Merrill's total RWA is 146% despite the firm's application of 150% RWA to the majority of its positions due to the fact that the firm is applying VaR (plus specific risk) or the PD/LGD approach to \$1.85 billion in positions.

As part of the holistic trading book review, OPSRA plans to improve consistency of regulatory capital treatment for principal investing. The current proposal being discussed with the firms is to use a 300% risk-weight for all new private equity and principal investment positions, while eliminating the use of the 10% threshold and ten-year transition period. In addition, we propose using a 300% risk-weight for unfunded commitments to invest, while applying a 50% conversion factor. Positions already on the books would continue to receive their current capital treatment. CSE firms may be allowed to use the look-through approach for traditional funds (e.g., mutual funds).

PRIVATE EQUITY INDUSTRY OVERVIEW AND TRENDS

Private equity could be defined purely as direct equity investments in private corporations. However, there is a wider range of activities that requires consideration. Organizationally, some combination of private equity funds, real estate funds, and mezzanine funds can form one business unit within a CSE's fund management businesses, while hedge funds, hedge fund-of-funds, and traditional funds constitute another business. The former business would typically be dubbed "Merchant Banking," with the second group representing "Asset Management." While this structure is not universal, it is helpful to think of the fund management activities along these two broad lines. The underlying investments of merchant banking funds are, generally speaking, less liquid or illiquid, and entail long investment horizons.⁴ In the remainder of this section, some background information on merchant banking activities is provided, including recent industry trends.

Again, major asset classes within merchant banking include private equity funds, real estate funds, and mezzanine funds. As the name would imply, private equity firms, also referred to as "financial sponsors," take minority and majority equity stakes in private companies, or take public companies private via leveraged buyouts ("LBOs"). Real estate funds invest in real estate assets, taking equity positions as well as financing assets. Mezzanine funds invest primarily in corporate debt instruments, typically in private companies. Such funds can take positions across the corporate capital structure (i.e., loans, bonds, equity)—often investing in subordinated debt instruments that contain equity-like features in terms of the economic upside (e.g., convertible into equity). These three asset classes can be further sub-classified. For instance, one could differentiate between the LBO funds that invest in larger, mature corporations, and venture capital funds, which invest in small start-up companies. Furthermore, there are "infrastructure" funds, which invest in public infrastructure assets such as toll roads or broadcasting towers (two CSE firms are currently managing infrastructure funds). For the remainder of this section, all of these various fund types are referred to collectively as "private equity funds."

Private equity funds are often organized as limited partnerships, with the private equity firm acting as the "general partner," making all investment decisions and managing the portfolio of investment companies over time. Only certain investors—namely institutional investors such as endowments, pension funds, banks, and wealthy individuals—are qualified to invest in these funds. These outside investors are the funds' "limited partners." A distinguishing characteristic between private equity funds and other funds, such as mutual funds or hedge funds, is that private equity investor "commitments" are not funded upfront. Rather, as the general partner identifies investment opportunities over time, it makes "capital calls" to each limited partner.

The life of private equity funds can extend to up to ten years. Individual target investment horizons vary, and are often in excess of three to five years. Private equity firms exit or realize cash proceeds from their equity investments in several ways. Namely, the general partner takes the companies public via an IPO, its sells the company (or other asset) to a "strategic" (or corporate) buyer, or it sells the company to another "financial" buyer (or investor). The general partners also take money out of their investments over time via dividends, which are often funded with additional debt—referred to as "dividend recapitalization." Historically, limited

⁴ While Asset Management funds often invest in quite liquid assets, the seed capital invested by the CSEs in such funds is also included in this report due to the CSE firms' inability to immediately withdraw their investments.

partnership interests have not been tradable (i.e., have been considered highly illiquid). More recently, however, several large financial sponsors have announced plans to take their companies public (the private equity company, as opposed to one of its portfolio companies), and at least one financial institution has conveyed plans to create a platform to allow for secondary trading in these limited partnerships.

General partners typically charge the limited partners two types of fees. The first is a management fee, which is a fixed percentage of the fund's total equity capital, or commitments. The second is a performance fee or “carry,” which is based on the returns it generates. Typically, management fees charged are in the range of 1% to 2%, and performance fees are around 20% of profits above some minimum hurdle rate. In addition to the fees charged to investors, financial sponsors also charge fees to their portfolio companies, such as transaction fees.

Size and Growth of the Private Equity Market

Over the past several years, the size of the private equity market has increased substantially. Two common metrics used to monitor growth include (1) the total amount of uncalled capital (i.e., the amount committed by limited partners, but not yet called by general partners) and (2) the amount of fund raising (i.e., the amount of new capital raised) during a given period.

Beginning in 2001 and continuing through most of 2003, both the total amount of uncalled capital and the amount of new capital raised declined. However, since June of 2003 through June of 2006, the total amount of capital committed, but uncalled, increased substantially from \$473 billion to \$607 billion.⁵ Fundraising also increased dramatically over the past couple of years. During 2006, private equity funds raised \$432 billion in commitments, which was a 38% increase over 2005. The \$432 billion was raised by 684 new funds with the largest portion of commitments, \$212 billion, being raised by buyout funds (up 45% from 2005). Other growth areas for 2006 included real estate funds which raised \$63 billion (up 30% from 2005), mezzanine funds which raised \$19 billion (up 69% from 2005), and infrastructure funds which raised \$12 billion (more than double 2005's total). Distressed debt funds, fund-of-funds, and specialist secondary funds also raised significant amounts of capital—\$48 billion total in 2006. The only major fund type where fund raising was lower in 2006 than in 2005 was venture capital, which raised \$44 billion in 2006 (10% lower than capital raised in 2005).

Through the first quarter of 2007, preliminary indications are that private equity funds raised \$88 billion globally broken out as follows:

- Buyout funds - \$44 billion
- Distressed debt funds - \$9.3 billion
- Real estate funds - \$8.5 billion
- Venture capital funds - \$8 billion
- Secondary funds - \$6 billion
- Fund-of-funds - \$4.6 billion

Furthermore, there was a noticeable trend toward creation of larger funds in 2005 which continued through 2006 and into 2007. The table below clearly shows that there is a substantial

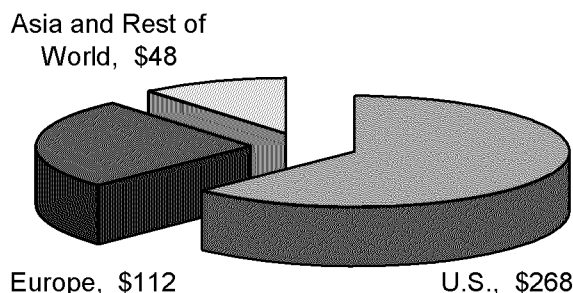
⁵ Private Equity Intelligence Ltd., “The 2007 Global Fundraising Review”

concentration of commitments in the five largest buyout funds, and that the top three funds are considerably larger than even the fifth largest fund. This trend is expected to continue through 2007.

<u>Fund</u>	<u>Fund Size (in millions)</u>
Goldman Sachs Capital Partners VI	20,000 USD
KKR Fund 2006	16,625 USD
Carlyle Partners V	15,000 USD
Apax Europe VII	8,500 EUR
Thoma H Lee VI	9,000 USD

In terms of the regional split of fundraising, \$268 billion (or 63%) of funds raised in 2006 were in the United States. European funds accounted for \$112 billion (or 26%) of the global total, and funds focused on Asia and the rest of world account for the remaining \$48 billion (or 11%).

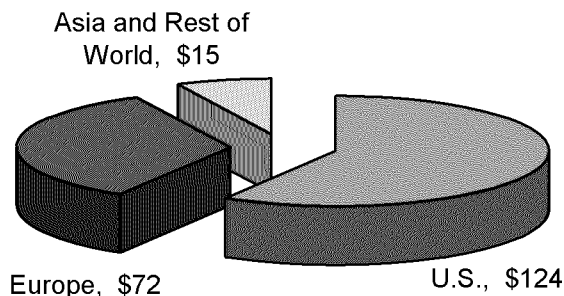
**Global Fundraising in 2006
(by Region, \$ in billions)**



Through the first quarter of 2007, the regional breakout for fundraising in the U.S., Europe, and Asia and the rest of the world was similar to 2006 at 63%, 26% and 11% respectively. Approximately \$55 billion of the \$88 billion in total private equity fund commitments were raised by funds focusing on the U.S. market. Funds with a European focus raised \$23 billion while funds focused on Asia and the rest of the world raised approximately \$10 billion.

Buyout funds – Of the \$212 billion raised by buyout funds in 2006, \$124 billion (or 59%) was raised by private equity fund managers located in the U.S. while \$72 billion (or 34%) was raised in Europe and \$15 billion (or 7%) in Asia and the rest of the world.

**Value of Buyout Funds Raised in 2006
(by Region, \$ in billions)**



This trend continued into the first quarter of 2007 where 70% of the \$44 billion in commitments to buyout funds were raised in the United States while 20% were raised in Europe and 10% in Asia and the rest of the world.

The creation of larger buyout funds has coincided with a trend towards investments by private equity firms in larger companies. During OPSRA’s regularly scheduled monthly meetings, the CSE firms have continually reported ever larger commitments to finance LBOs made through their leveraged lending businesses (which are quite distinct from the merchant banks). Throughout 2006 and 2007, the pace of high profile buyouts of large public companies has been relentless. In addition, the CSEs continued to report buyouts occurring at ever larger leverage levels, fueled by high investor demand for non-investment grade corporate loans and bonds.

CSE CARRYING VALUES BY INVESTMENT CATEGORY

Principal Investing carrying values are reported by broad investment types for the CSE firms for year-end 2005 and 2006 in Table 1 below.⁶

Table 1: CSE Principal Investments (PI) Carrying Values By Investment Category¹
\$ are in Millions
Q4 2005 and Q4 2006²

	<u>Bear</u>	<u>Goldman</u>	<u>Lehman</u>	<u>Morgan⁶</u>	<u>Merrill⁷</u>
2005					
Merchant Banking Fund Seed Capital ³	\$829	\$2,411	\$1,001	\$544	-
Traditional and Hedge Fund Seed Capital ³	\$231	\$133	\$247	\$248	\$237
Investments in Third Party Funds	\$272	\$109	\$325	-	\$1,615
Direct Investing/Other ⁴	\$444	\$4,832	\$144	\$1,835	\$5,422
Subtotal	\$1,776	\$7,485	\$1,717	\$2,627	\$7,274
Total Adjusted Assets ⁵	\$184,791	\$431,385	\$254,540	\$502,494	\$425,510
Subtotal/Total Adjusted Assets	0.96%	1.74%	0.67%	0.52%	1.71%
2006					
Merchant Banking Fund Seed Capital ³	\$825	\$4,145	\$2,180	\$830	-
Traditional and Hedge Fund Seed Capital ³	\$369	\$262	\$752	\$1,412	\$0
Investments in Third Party Funds	\$500	\$361	\$648	-	\$2,952
Direct Investing/Other ⁴	\$271	\$9,481	\$145	\$3,108	\$8,757
Subtotal	\$1,965	\$14,249	\$3,725	\$5,349	\$11,709
Total Adjusted Assets ⁵	\$271,979	\$536,733	\$503,545	\$646,148	\$544,321
Subtotal/Total Adjusted Assets	0.72%	2.65%	0.74%	0.83%	2.15%

Notes:

- ¹ Unfunded commitments to invest are not included in this table, but are reported separately in Table 2 (Regulatory Capital Summary).
- ² For Merrill and Bear carrying values are reported as of December; for the other three CSE firms values are reported as of November.
- ³ Investments are categorized by fund type versus by the business unit that manages the fund. For instance, \$85 million of Bear's \$825 million Merchant Banking seed capital is invested in funds that are managed by Bear Stearns Asset Management, as opposed to Bear Stearns Merchant Banking.
- ⁴ Merchant Banking businesses at some CSEs make investments that are owned entirely by the CSE, as opposed to being held through a fund. Such investments are included in the Merchant Banking line above. For the purposes of this table, Direct Investing includes investments made outside of the (institutional) Merchant Banking businesses (e.g., investments made by the trading division).
- ⁵ Adjusted to remove the balanced book. For Lehman Brothers and Morgan Stanley December numbers are used for 2005 (instead of November).
- ⁶ Data for Morgan investments in third party funds are not separately available for 2005. These amounts are therefore included in the other three investment categories. For November 2006, total third party fund investments were \$269 million.
- ⁷ Merrill currently manages no traditional funds or hedge funds, and in 2006, Merrill sold its MLIM business to Blackrock.

Of the five CSEs, Goldman Sachs has invested the most seed capital into internally managed merchant banking funds (\$4.15 billion currently). Goldman is by far the largest manager of institutional funds that invest in corporate assets. Between 1986 and 2006, the merchant bank raised nearly \$30 billion in investor equity through its private equity and mezzanine fund businesses. Furthermore, the most recent buyout fund, GSCP VI, which closed fundraising in 2007, is a \$20 billion fund. Separately, through 2006, Goldman raised over \$22 billion in investor capital through the real estate segment of its merchant banking business. Across all of the corporate and real estate funds launched to date, Goldman Sachs' commitments (or seed capital) have represented approximately 25% of total fund commitments.

⁶ Each of the five CSE firms categorizes and reports its principal investment activities differently. OPSRA staff created the above broad categories for investment types in an attempt to make meaningful cross-firm comparisons. In doing so, some manipulation and interpretation of the data provided was required.

Morgan Stanley is the largest manager of institutional real estate funds, with nearly \$50 billion in AUM in 2006. However, Morgan's own investment in these funds as of year-end was only \$608 million. The firm currently has little presence in terms of managing other types of private equity funds (although it has more recently launched an infrastructure fund). Consequently, Morgan's total merchant banking seed capital was only \$830 million as of 2006, despite its large real estate presence.

Merrill Lynch is the only CSE firm that does not currently manage any sort of institutional merchant banking funds. In addition, Merrill currently has no money invested in internal traditional funds, which reflects the merger of Merrill Lynch Investment Management and Blackstone in 2006.

Bear Stearns has a merchant banking business that is focused almost exclusively on middle market corporate (equity) investments. This business has raised nearly \$5 billion to date, including Bear seed capital.

Lehman Brothers currently manages several types of institutional merchant banking funds, including funds pursuing real estate and various private equity strategies (including venture capital as well as LBO strategies).

As previously stated, the CSEs also make significant principal investments away from their merchant banking and asset management businesses. Much of this exposure is generated through desks that have been established as pure proprietary investing businesses—e.g., Morgan Stanley Principal Investments and Merrill Lynch Global Private Equity. However, investments can be sourced from a variety of businesses within a firm. More of the firm specific details are discussed in the Appendices; however, a few highlights are worth noting.

- External Funds: Merrill Lynch has been leading the recent growth in investing in external funds with Lehman following suit. Some firms (like Bear and Lehman) pursue this more for the purpose of acquiring a stake in the funds' fee income. At Merrill the motivation is more for facilitating other business with hedge funds.
- Overall Growth: Goldman's principal investing business has basically doubled in size in recent years, while senior management at Merrill and Lehman has flagged this as a primary growth area.

CONTROL AND RISK MANAGEMENT PRACTICES

Market Risk

Generally speaking, there is not a large role for the CSE firm independent market risk management groups in serving as a principal investments control function. These investments are not complex like derivative or other fixed income portfolios in the sense of involving complicated payoffs or involving explicit exposure to some complex combination of market risk factors. In other words, this is not an area where getting the risk measurement right is a particular point of concern. Furthermore, compared to other trading businesses, the principal investing risk profiles evolve rather slowly over time, there are relatively few positions, and the valuations of the positions do not frequently change.

Consequently, the performance of detailed deal-by-deal due diligence, and committee approval serve as the key controls in this space. The extent to which the monitoring and approval of investments is decentralized throughout the businesses, versus the existence of some centralized oversight by parent company senior management varies. For instance, at some firms transactional limits and portfolio investment guidelines are simply approved by senior management and delegated to particular businesses, while at other firms senior committees take a more active ongoing role. This is the case at Bear Stearns, where the Executive Committee, which is the senior-most decision making body at the firm, approves every investment made by Bear Stearns Merchant Banking funds that is greater than \$20 million. Meanwhile, investments made by the Goldman Sachs Principal Investment Area funds do not require approval by the Goldman Sachs Management Committee (although the Management Committee approves the investment guidelines, including diversification requirements, when the funds are launched). Furthermore, the structure of the various committees that have been established for approving investments varies. For instance, at Merrill Lynch separate firm-wide committees exist for approving private equity and hedge fund investments. The level of approval authority depends on the transaction size (e.g., generally, investments over \$50 million require department head approval and investments over \$125 million require CFO or CEO approval). More specific details are discussed for each firm in the Appendices.

Valuation Policies and Controls

The CSEs use a variety of techniques in valuing illiquid principal investments, made either directly or through internally managed funds. Prior to 2007, only certain entities qualified for the fair value accounting treatment of such positions. Namely, there are separate accounting guidelines for investment vehicles that allowed the firms to fair value the investments made through merchant banking funds. For similar investments held elsewhere at the firms, three traditional techniques were used to account for investments made with the intent to hold for an extended period of time. These methods entail carrying investments either at historical cost or book value. The selection of a particular method largely depended on the percentage of ownership or economic interest in the company or asset of interest. The methods of choice are the consolidation method, the equity method, and the cost method. A summary of each is provided in Appendix F.

In 2006, the Financial Accounting Standards Board (“FASB”) issued two new statements that carried implications for the valuation of principal investments (among other assets). The first

statement—SFAS 157: the Fair Value Measurement—expands and clarifies the definition of fair value. In short, prior to this statement, marking an asset to fair value meant assessing the price to be paid today if the asset needed to be replaced. The new statement defines fair value as the asset’s exit price—i.e., the price that would be received if the asset was (hypothetically) sold today to a market participant, based on the assumptions that such market participants would make.⁷ The second statement—SFAS 159: the Fair Value Option for Financial Assets and Financial Liabilities—allows firms to elect to apply fair value accounting to specified instruments. Under SFAS 159, investments that traditionally fell under the equity method or the cost method can now be fair valued if both SFAS 157 and SFAS 159 are adopted. Furthermore, the fair value option can be adopted on an investment by investment basis, regardless of whether past investments were elected for fair value. Once elected, the fair value option is irrevocable.

Estimating fair value for non-publicly traded investments tends to be fairly subjective in that there is a heavy reliance on management’s assumptions. The CSEs are generally fair valuing their investments by carrying the positions at cost for the first year, unless there is a material event, such as a subsequent round of financing in an investment company. After the first year, the firms may begin to apply techniques such as a discounted cash flow model, an earnings multiplier, or comparable company analysis (e.g., comparing to other acquisitions or the prices of similar public companies). To compensate for the illiquid nature of many of these investments, significant discounts may be applied to the resulting valuations, which can take into account investment horizons as well as the earnings/price volatility of the industry of a particular investment company. In valuing investments in third party funds, the CSEs rely upon the net asset values (“NAVs”) provided by those funds.

In addition to valuation, an accounting issue that arises in the fund management context is the recognition/treatment of fee income. With respect to performance fees generated through hedge funds and private equity funds, there is some variation amongst the CSEs. While the basic philosophy taken is to recognize fees as they are realized, the existence of so called “claw back” provisions in the fund fee structures requires some judgment. Such provisions may require fund managers to essentially return fees if future performance is poor. Thus, the question that arises is essentially how quickly to recognize fees. Most CSE firms recognize performance fees earned from hedge funds and fund-of-funds quarterly, while one waits until year-end to recognize all fees. For private equity funds, the firms use scenario analyses in informing the recognition of performance fees. Such exercises entail an assessment of the amount of fees that would be retained on realized investment proceeds, should existing fund investments perform poorly.

The fair value accounting statements (SFAS 157 and 159) also permit a fund to make assumptions regarding the future fees it expects to generate—allowing for more aggressive accounting treatments. However, no CSE firm has conveyed its intent to change their treatment of performance fees as a result of SFAS 157 and 159.

Valuation Control

Most CSE Finance Departments price verify principal investments on a quarterly basis. Lehman is the exception, as it has a dedicated team, the Private Equity Valuation Committee, which verifies the investments on a monthly basis. The process of verifying valuations is based on the

⁷ Goldman’s adoption of SFAS 157 in Q1 of 2007 resulted in approximately \$500 million in mark-ups (or profit) on the firms Merchant Banking-related investments.

application of several techniques. These include comparisons from recent rounds of unrelated financing transactions approved at committees, operating and transaction multiples from market based analysis, discounted cash flow analysis, financial performance trends, and liquidity and recovery analysis. In addition to the role played by the independent controllers, the individual business units may utilize additional valuation control processes, such as requiring memos justifying valuation techniques, holding periodic meetings to review valuations, etc.

In addition to the valuation process, some CSEs periodically update senior committees on investments' performance. For instance, at Merrill, a memo is prepared to highlight an investment's performance to date, deviations from the initial business plan, and any issues that need to receive additional approval. The memo is presented to the investment committees on a quarterly basis and to the Board of Directors on a periodic basis. Similarly, at Bear Stearns the Executive Committee receives monthly reporting from a designated corporate accounting group on all alternative investments, which includes information on any changes to position values based on new investments, sale of existing investments, mark up/down of current investments, the businesses responsible for each investment, and year-to-date gains/losses.

Liquidity Risk Management

Principal investments, which can not be financed in the secured debt markets, are funded 100% with long-term cash capital at the CSE firms. That is, the positions are funded with some combination of equity and long-term debt, which is generally defined as debt with a maturity of one year or greater. The exact combination of debt and equity used to fund a particular business or transaction depends on the particular economics involved. Also, while firms extend commitments to invest in the future (recall private equity commitments are not funded by investors upfront), treasurers explain that these capital calls can be seen coming weeks in advance. Furthermore, it typically takes years for a fund to become fully invested; thus, the capital calls are fairly spread out. Consequently, compared to the firms' corporate lending businesses, which extend loans to finance mergers as well as the acquisitions made by private equity firms, the liquidity risk management implications of the investment commitments are minor.

REGULATORY CAPITAL TREATMENT

The results of the regulatory capital treatments currently applied by each CSE firm are summarized in Table 2 below:

Table 2: CSE Principal Investments (PI) Regulatory Capital Summary, Q4 2006
\$ are in Millions

	Bear	Goldman	Lehman ¹	Morgan	Merrill
Total PI Carrying Value (from Table 1)	\$1,965	\$14,249	\$3,725	\$5,349	\$11,709
PI Regulatory Capital	\$157	\$3,109	\$686	\$428	\$1,366
PI Regulatory Capital/Carrying Value	8%	22%	18%	8%	12%
PI RWA	100%	273%	230%	100%	146%
Unfunded Commitments to Invest	\$708	\$6,358	\$1,040	\$1,218	\$1,698
Commitments Regulatory Capital	\$113	\$509	\$166	\$0	\$102
Total Regulatory Capital with Commitments	\$271	\$3,618	\$852	\$428	\$1,468

Notes:

¹ Lehman PI Regulatory Capital was calculated by deducting "Commitments Regulatory Capital," which was estimated, from total capital. Committed Regulatory Capital was estimated using a conversion factor of 50%, which was known, and an RWA of 400%, which was estimated. For unfunded commitments, the breakdown between 400%, 300%, and 100% RWA was unavailable.

Bear is currently using a consistent capital treatment for all investments. The method is to apply 100% RWA against all funded exposures that fall under the 10% Basel II capital materiality threshold,⁸ and to apply either 300% or 400% RWA for exposures above the threshold. During 2006 the funded investments were below the 10% threshold. The firm has since exceeded 10% in 2007, and is applying the higher RWA accordingly. All commitments to invest receive a 50% conversion factor and are risk-weighted at 400%.

Goldman is currently applying two different capital treatments, depending on where exposures are generated. All seed capital investments, as well as the firm's outsized investments in Sumitomo and ICBC, are currently receiving 100% RWA treatment. Goldman is also applying 100% RWA to Merchant Banking commitments using a 100% conversion factor. Meanwhile, all principal investments made by the firm's trading (or securities) division are receiving 250% RWA. In addition, several securities division investments, which are being accounted for either according to the equity method or being fully consolidated (totaling \$980 million in carrying value), are being fully deducted from capital, which explains why the PI RWA in the table above is greater than 250%. Removing this \$980 million from regulatory capital results in a PI RWA of approximately 190% and a capital charge of 15%.

Lehman uses a "grandfathering" provision, making a clear distinction between principal investments made prior to November 30, 2005 (when the firm was approved as a CSE firm) and investments made after November 30, 2005. For pre-November 2005 investments, Lehman applies a 100% risk-weight to all principal investment assets. For post-November 2005

⁸ Equity exposures of a bank are considered material if their aggregate value, excluding all legislative programmes, exceeds, on average over the prior year, 10% of the bank's Tier 1 plus Tier 2 capital. Furthermore, this materiality threshold is lowered to 5% of a bank's Tier 1 plus Tier 2 capital if the firm's equity portfolio consists of less than 10 individual holdings.

investments, the firm uses 300% risk-weighting for all direct public investments and 400% for all direct non-public investments. With respect to unfunded commitments to invest, Lehman applies a 50% credit conversion factor, and then applies the applicable risk weight as described above.

Morgan Stanley's regulatory capital treatment is similar to Bear's in that the firm applies a 100% risk-weight to all principal investments below the 10% materiality threshold, and applies a 300% or 400% risk-weight to assets in excess of the materiality threshold. Morgan is currently below the 10% threshold; therefore, the firm applies a 100% RWA to all investments resulting in an 8% capital charge. Additionally, Morgan is the only firm that is not applying capital charges to unfunded investment commitments. Unfunded ISG investments/private equity commitments totaled \$239 million and \$985 million as of May 31, 2007 and November 30, 2006, respectively.

Merrill Lynch does not utilize the 10% materiality threshold. The firm does, however, use the "Transition Period" (i.e., grandfather clause) mentioned below. As a result, the firm's regulatory capital treatment falls more in line with the "Standardized Approach" under Basel II where riskier equity investments, such as private equity, receive a 150% risk-weight. For non-equity principal investments, Merrill uses a variety of approaches including VaR plus a specific risk add-on for trading inventory; 100% RWA for "Other" hard assets (e.g., building, land, equipment, etc.); and a PD/LGD approach for certain portfolios of non-performing loans. As the data regarding the regulatory capital generated by Merrill's application of the VaR and PD/LGD methods were not available as of this report, the RWA of 126% reported for the portfolio is slightly understated (i.e., the true capital held is closer to 150% RWA). All commitments to invest receive a 50% conversion factor and are risk-weighted at 150%.

Outstanding Issues and Sources of Variation

With respect to capital treatment for private equity and principal investments, there are certain issues that lend themselves to interpretation, and thus can lead to inconsistencies in the CSE firms' capital treatments as detailed above. The largest issues involve the proper risk-weight to apply (e.g., 100%, 300%, or 400%), whether or not a materiality threshold should be applied when determining the risk weighting, and whether or not to use a transition period (i.e., ten year grandfather period) in applying the higher risk-weights to equity exposures.

Risk-Weight Assets – According to Basel II, there are two acceptable approaches for calculating risk-weighted assets for equity exposures not held in the trading book—(1) a market-based approach and (2) a PD/LGD approach. Under the market-based approach, institutions are permitted to calculate the minimum capital requirements for their banking book equity holdings using either a simple risk-weight method or an internal models method. CSE firms, with the exception of Merrill Lynch—which primarily uses a 150% risk-weight under the Standardized Approach—use the simple risk-weight method.

Simple Risk-Weight Method – Under the simple risk-weight method, a 300% risk-weight is applied to equity holdings that are publicly traded and a 400% risk-weight is to be applied to all other equity holdings; thus, resulting in 24% and 32% capital charges respectively. Prior to Basel II, equity exposures were risk-weighted at 100% resulting in an 8% capital charge. At first glance this seems like a fairly straightforward approach, but Basel II also discusses materiality

thresholds and grandfathering provisions, which has led to various levels of interpretation by the five CSE firms.

Materiality Threshold – Both Basel II and the September 25, 2006 Basel II Joint Notice of Proposed Rule Making (put out by the OCC, Federal Reserve, FDIC, and OTS) reference materiality thresholds that, when applied, result in a 100% risk weighting for a substantial portion of the CSE firms’ private equity and principal investment exposures. Basel II states that supervisors may exclude the equity exposures of a bank “from the IRB treatment” based on materiality. It is unclear whether or not the ability for supervisors to exclude equity exposures from the “IRB treatment” based on materiality also gives supervisors the ability to exclude equity exposures from the “simple risk-weight approach” used by some CSE firms. The current assumption is that this is the case, pending additional guidance.

Transition Period – Basel II discusses a ten year transition period for the treatment of equity exposures. An Advanced Notice of Proposed Rule making (“ANPR”) also mentioned the ten year transition period; however, the September 25, 2006 Final NPR was silent on the issue. Basel II states that, for a maximum of ten years, supervisors may exempt “from the IRB treatment” particular equity investments held at the time of the publication of this Framework. Again, it is unclear whether or not a supervisor’s ability to exempt particular equity investments from the “IRB treatment” also means that these positions can be exempted from the “simple risk-weight approach” used by some CSE firms. But this is generally assumed to be the case. Additionally, Basel II states that equity holdings covered by this transitional provision will be subject to the capital requirements of the standardized approach, which can be increased to 150% from 100% at the supervisor’s discretion. As previously mentioned, this is the approach Merrill Lynch uses for equity-like principal investments.

Additional Issues – CSE firms are also grappling with other regulatory capital issues including the treatment of “unfunded” private equity commitments and the treatment of mutual fund exposures. For off-balance sheet items, Basel II states that commitments with an original maturity up to one year and commitments with an original maturity over one year will receive a conversion factor of 20% and 50%, respectively. With respect to capital treatment for mutual funds, CSE firms contend that applying the same treatment to mutual funds as you would to private equity funds appears overly conservative. OPSRA has discussed applying a look-through approach or other alternative treatment for Traditional Funds.

As part of the holistic trading book review, OPSRA plans to improve consistency on regulatory capital treatment for principal investing. The currently proposal being discussed with the firms is to use a 300% risk-weight for all new private equity and principal investment positions, while eliminating the use of the 10% threshold and ten-year transition period. In addition, we propose using a 300% risk-weight for unfunded commitments to invest, while applying a 50% conversion factor. Positions already on the books would continue to receive their current capital treatment. CSE firms may be allowed to use the look-through approach for traditional funds (e.g., mutual funds).

APPENDICES

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APPENDIX A: BEAR STEARNS

A. Overview of Activities and Senior Governance

Internally, Bear uses the term “alternative investments” to classify what are usually equity investments that cannot be immediately liquidated (i.e., the positions that “look more like storage than moving”). Each of Bear’s alternative investments is attributed to one of six main business unit related categories: 1) Merchant Banking, 2) Asset Management, 3) Energy, 4) Investment Banking (IB) Related, 5) Strategic, and 6) Other.

The Merchant Banking business manages private equity funds that Bear, Bear employees, and third parties invest in. Similarly, Asset Management manages traditional funds (money market and mutual funds), hedge funds and fund-of-funds, its own private equity funds and fund-of-funds, and also invests in third party funds. The “Energy” category represents Bear’s Arroyo Energy Investors business, which invests in power plants and power purchase agreements. IB Related investments are in third party private equity and real estate funds.⁹ Strategic Investments are made for the primary purpose of enhancing the firm’s existing businesses/franchise, rather than for their expected capital appreciation on a stand-alone basis. These investments are not sourced from any single business unit. Finally, the “Other” category includes those investments which do not fall neatly into any of the other categories

The total carrying value of Bear’s funded alternative investments as of December 2006 was \$1.965 billion.¹⁰ The firm also had another \$708.4 million in outstanding commitments to invest. The December 2006 breakdown of funded investments by the categories above is¹¹:

Merchant Banking -	\$740 million
Asset Management -	\$613 million
Strategic, IB Related, and Other -	\$454 million
Energy -	<u>\$158 million</u>
	\$1.965 billion

The total carrying value of all funded alternative investments has gradually increased from around \$600 million in 2001 to the \$1.965 billion in 2006. Bear has data available for the above categories starting Q2-05; since then the combined Merchant Banking and Asset Management categories have comprised greater than 50% of total Alternative Investments.

Provided below is a discussion of the types of investments comprising the major categories, as well as the management of those exposures within the businesses. However, Bear’s senior management also plays an overarching role in the management of alternative investments. Namely, the Executive Committee, which is the senior most decision making body at the firm,

⁹ IB related investments are done for a combination of capital appreciation and customer relationship purposes. The total carrying value for these as of December was only \$138.7 million across 28 funds, and the funds are actually administered by Asset Management for IB. We therefore do not discuss this activity separately.

¹⁰ This total includes approximately \$200 million in funded leverage extended by Bear to employees invested in the Merchant Banking funds. This activity is unique to Bear, and is discussed further below.

¹¹ Note the categories reported here are different than in the Executive Summary. As previously noted, for the summary OPRSA sought to create categories based on investment type that could be used across the five CSE firms.

approves all firm investments greater than \$20 million, reviewing detailed memo and/or presentations of the investments in the process, meeting with new fund managers, etc.¹²

The Executive Committee as well as Risk Management receives monthly reporting from a designated corporate accounting group on all alternative investments, which includes information on any changes to position and/or carrying values based on new investments, sale of existing investments, mark up/down of current investments, the businesses responsible for each investment, and year-to-date gains/losses. From an aggregate risk tolerance perspective, there is currently a \$500 million stress loss limit in place for this activity, for which the relevant stress test in Risk Management’s 1987 stock market crash scenario. Alternative investments currently yield a 1987 loss impact of around \$300 million, or around 15% of the total carrying value

The great majority of alternative investments at Bear are carried at fair value, with \$187 million accounted for according to the equity-method.

B. Merchant Banking

Overview

Bear Stearns Merchant Banking (BSMB) was founded in 1997. Initially the group invested only Bear and Bear employee money. After developing a track record, the firm decided to raise outside capital as well. However, the primary stated objective of BSMB investments remains capital appreciation, as opposed to facilitating the generation of fee income.¹³

Since inception, the business has launched four funds. Two of the funds - Portfolio I and Captive Bear Growth Capital – were funded entirely with Bear and Bear employee money. The other two, MBP II and MBP III, accepted outside money and thus are also referred to internally as the “institutional” funds. The following table summarizes all BSMB activity as of Dec-2006:

Fund	Total Fund Size (Commitments)	Amount Invested	# Of Investments (Companies)	Realized Proceeds	Unrealized Proceeds	Gross IRR
Portfolio I	\$196.60	\$196.60	19	\$1,037.60	\$21.10	73.8%
BGCP	\$375.00	\$162.50	11	\$96.90	\$170.40	54.8%
MBP II	\$1,482.00	\$1,349.30	23	\$1,099.80	\$1,280.00	27.3%
MBP III	\$2,682.00	\$325.80	2		\$325.80	
Total	\$4,735.60	\$2,034.20	55	\$2,234.30	\$1,797.30	56.3%

Portfolio I has been completely invested and virtually all of the investments have been monetized. MBP II, which was launched in 2000, is mostly invested, but a good portion of its investments have not yet been exited. BGCP is approximately half invested, while MBP III is largely not invested – meaning the fund is in its relative infancy. The unrealized proceeds are equal to the investment amount for MBP III because the investments that have been made are

¹² One caveat to this process is that it is the Management and Compensation Committee (the second most senior decision making body at the firm) that approves establishing new BSAM funds. In addition, individual fund managers making investments greater than \$20 million must meet with Warren Spector.

¹³ BSMB charges a 1.75% management fee on third party assets under management and a 20% performance fee.

still being held at cost, as sufficient information has not become available (or time elapsed) for changing those marks.

In addition to investing directly in the Merchant Banking funds, Bear provides leverage to its employees to invest in the funds. For MBP II Bear provided 3-to-1 leverage and for MBP III 2-to-1 leverage.¹⁴ This financing is provided via non-recourse loans, creating additional Bear Stearns exposure to the BSMB fund investments. While Bear's exposure through the leverage program is senior to the employee equity (i.e., the employees incur the first loss), the full loan amount is included in the exposure and capital numbers herein. In other words, the \$740 million Merchant Banking carrying value is made up of \$547 million in Bear equity and \$193 million in employee leverage.

As illustrated in Table 1, BSMB performance has been very strong, with an approximate 50% gross (before fees or operating expenses) annual return to date across all investments. As a matter of investment objective, the business seeks outsized returns – which it defines as 1,000 basis points (10 percent return) above the S&P 500.

Strategy

Through the institutional funds (MBP II and III) the business targets investment sizes in the \$100 million to \$250 million range. The BCGP fund's maximum investment size is only \$25 million, as it was created to allow the business to pursue the smaller opportunities that did not fall within the stated parameters of the institutional funds. The overall focus of BSMB is on middle market companies – those with enterprise value in the \$200 million to \$1.5 billion range and EBITA greater than \$25 million. Within this spectrum the business pursues classic LBOs of relatively mature companies (utilizing leverage from banks), as well as investments in smaller, growth opportunity companies such as financial service start-ups. But in general the business does not have a venture capital focus, nor does it participate in the larger public-to-private buyouts. Many of the investments are majority stakes, but BSMB does take minority interests alongside entrepreneurs as well. BSMB does not, however, invest with other financial sponsors in companies, articulating a strong aversion to “club” deals. Similarly, BSMB does not invest in third party funds.

BSMB has a team of 39 investment professionals who focus on three primary industries: Retail, Financial Services, and Consumer Products. Within these industries, the funds invest in a variety of transaction types – e.g., industry consolidations, restructurings, and growth situations. In terms of geographic focus, the Institutional funds invest primarily in North America. Based on investment guidelines, fund managers have the ability to invest up to 25% of commitment outside of North America.

The targeted investment horizon for BSMB investments is three to five years. Typical exit strategies include sale to a strategic (corporate) buyer, sale to a financial buyer (i.e., another investor), sale to other existing shareholders, and public offerings. Depending on the dynamics in the public and private equity markets, opportunities may exist to exit investments more quickly than originally planned, which the business will take advantage of. In addition, BSMB proactively seeks opportunities to take cash out of investment companies through dividends and dividend recapitalizations. In recent years the benign credit environment and ample investor demand for corporate debt has made this approach increasingly viable.

¹⁴ The total employee commitment to the two funds, including leverage, is \$951 million.

BSMB sources investments from a variety of places. The deal teams are “out all day long looking for opportunities” and incentivizing parties in their networks to bring opportunities to them. These parties include investment banks, other Bear Stearns businesses, senior corporate executives within targeted industries, professional deal finders, entrepreneurs, board members, regional bankers, etc. BSMB personnel feel the sector expertise of their investment professionals and position as part of Bear Stearns help make BSMB an attractive investment partner. For instance, there are synergies between Bear’s fixed income business and financial services companies engaged in consumer finance and subprime credit. Also, the investment portfolio companies can benefit from Bear’s expertise in structuring, tax issues, etc.

The degree of control asserted by BSMB over its portfolio companies is described as one of direct influence over the investments, but without assuming operational control. For instance, BSMB does not insert its own employees into roles such as CEO, but does take Board seats and work with company management teams on issues such as operating and capital budgets, analyses of perspective follow-on acquisitions, designing compensation plans, etc. Further, when company management teams do not perform, BSMB will replace them.

BSMB invests in companies on both a leveraged and un-leveraged basis. When utilizing leverage (bank debt), the business receives about 25% of its financing from Bear’s corporate lending business, and about 75% from outside banks. When asked more broadly about the industry impact of the readily available credit in recent times, BSMB staff explained they do loose deals because they are not willing to place the same leverage levels on companies as competing bidders. For instance, a recent deal was noted that closed at 7-to-1 leverage on a company that BSMB was only willing to apply 6-to-1 leverage to. BSMB also asserts its strategy is not one focused on the ability to buy and finance companies, but on increasing company cash flows over time.

Due Diligence and Risk Management

The due diligence and business review of investment opportunities is typically performed by a deal team of three BSAM professionals, who utilize a number of outside professionals such as accountants, engineers, industry experts, actuaries, private investigators, and attorneys. The teams analyze the potential strengths and risk associated with an investment opportunity by examining the company’s products/services, market position and industry dynamics, business plan, etc. The process also includes industry competitive positioning studies, review of all insurance programs and potential liabilities, comprehensive background checks, etc. The entire due diligence process, which typically takes between 90 to 180 days, culminates with a presentation to the Bear Stearns Investment Committee (BSIC).

The BSIC is comprised of fourteen members: eight from BSMB and six senior executives from other areas of Bear Stearns (e.g., head of IB). A detailed investment memo is delivered on every investment. These memos include a description of financial models, industry studies, company capitalization, investment rationale, business and industry overview, biographical information on management, summary of third party due diligence, etc. All investments require the unanimous consent of BSMB partners. In addition, as discussed above, all firm investments greater than \$20 million are brought to the Executive Committee, which is largely focused on assessing the potential reputational issues that may arise from investing in a particular company.

The due diligence process is described as involving spending an “extraordinary amount of time” on companies before investing, and paying a lot outside professionals a lot of money in the process. It was also noted that at one point the business went two years, around 2000-2002, without making a single investment.

BSMB funds have prescribed diversification requirements. For instance, a single investment can comprise not more than 20% of a fund. However, the business has yet to allocate as much as 10% of a fund to a single investment.

C. Asset Management

Bear Stearns Asset Management (BSAM) has four main business units: Traditional Products, Hedge Funds, Private Equity, and Bear Measurisk. Traditional Products are equity and fixed income mutual funds managed by Bear Stearns. Through the Hedge Funds business, BSAM manages its own funds and fund-of-funds (FoFs), and also seeds third party funds. Likewise, the BSAM Private Equity business manages its own funds (separate from BSMB), offers FoFs, and invests in third party funds. Bear Measurisk is a service that collects positions from internal and many external mutual and hedge funds, and provides risk analytics to institutional investors such as fund-of-funds managers for informing investment decisions.¹⁵ The 2006 assets under management (AUM), revenues, and value of Bear’s investment are reported for the three major fund types in Table 2 below:

	<u>AUM</u>	<u>Revenues¹</u>	<u>Bear Investment²</u>
Traditional Funds	\$34.6 billion	\$100 million	\$106 million
Hedge Funds	\$5.6 billion	\$20 million	\$367 million
Private Equity/Venture Capital	\$1.17 billion	\$200 million	\$109 million
Other Strategic ³			\$31 million
	\$41.39 billion	\$325 million	\$613 million

¹ Includes management fees, performance fees, and returns on BSAM principal investments, which collectively comprise the vast majority of BSAM’s total revenue. Numbers are approximate values.

² Includes Bear’s investments in third party funds: \$24 million in private equity and \$135 million in hedge funds.

³ Represents BSAM strategic investments in three third party brokerage/investment firms.

In terms of trends, the above relative composition of AUM by fund type is not expected to change drastically in the foreseeable future, although hedge funds may grow somewhat as a percentage of the total. The broad philosophy conveyed by BSAM management is not wanting to specialize in any particular area, but rather to “do it all”, so that the business can offer a variety of product to customers.

BSAM’s clients are investors such as endowments and foundations, pension funds, high net worth individuals, fund-of-funds, corporations, etc. BSAM has sales people who distribute directly to investors, but also distributes through intermediary channels. For instance, high net

¹⁵ Interestingly, BSAM is receiving position level data in Bear MeasureRisk from about 800 hedge funds.

worth individuals invest in BSAM product through Bear Stearns “Private Client Services” business (Bear’s financial advisory business for high net worth individuals), as well as through external consultants/gatekeepers. BSAM also uses 3rd party distributors, has other portfolio manager customers, etc.

Hedge Funds

As illustrated in Table 2, BSAM’s total hedge funds investment is the largest of the three major fund types. BSAM has twelve proprietary hedge funds that pursue a variety of strategies (Emerging Markets, Europe Long/Short, ABS, etc.), as well as one FoF.¹⁶ Bear’s investment in any one internal fund as of December 2006 ranges from under \$1 million to just over \$32 million. In addition, BSAM has seeded eight external hedge funds, with 2006 investment amounts ranging from \$5 million to \$26 million. The business has grown its proprietary fund offering over time partly as new fund managers seeking seed capital to develop track records have been brought onto the BSAM platform. In other instances, managers starting new funds have approached Bear in search of capital, but have not wanted to join the BSAM platform, hence the existence of the external fund exposures. As depicted in Table __, Bear’s total seed capital in internal hedge funds is about \$230 million, versus \$135 million in external funds. BSAM staff stated that, recently, most growth has come from growing the Bear platform (internal funds)

When a new BSAM fund is created, BSAM assumes complete oversight of its activities, and the manager/staff uses BSAM’s infrastructure (office space, IT, etc.). Through the third party seeding arrangements, BSAM acquires a stake in the funds’ fees, but the funds may not use the Bear brand or infrastructure. The size of BSAM’s stake in an outside fund’s fees varies with the investment amount, under what was described as a “point per dollar” scale. For example, if BSAM invests \$15 million it typically would receive a 15% interest in the fund’s fees. The benefit to the external funds from these arrangements is the ability to advertise that Bear Stearns is an investor, as well as build a track record. In general, there are provisions in these agreements which permit the funds to later re-purchase BSAM’s stake in the fee income.

When internal BSAM funds are initially launched Bear’s seed capital often represents a large portion of AUM. The general idea is for BSAM to withdraw its money as a manager establishes a track record and investor money comes in. This can take some time; for instance, there are currently several internal funds for which Bear does not expect to withdraw any of its initial capital during 2007. There have also been instances where new funds performed poorly and BSAM closed and liquidated the funds.

Similarly, Bear’s investment in a third party hedge fund can initially comprise a large portion of AUM. Typically, Bear’s entire investment is locked up for one or two years when seeding external funds. Subsequently, the negotiated pace at which BSAM can withdraw its initial capital and profits can vary. For instance, one possibility is for BSAM to withdraw all capital and profits in excess of \$5 million at each year-end following the expiration of the lock-up, allowing the fund to keep \$5 million in equity indefinitely. When BSAM seeds third party funds, it requires the funds to submit their positions to Bear MeasureRisk periodically, providing direct

¹⁶ BSAM’s management expressed a view that the hedge fund-of-funds business is not viable in the long run. Alternatively, BSAM also offers a product it calls its Open Architecture Platform, which allows investors to use Bear MeasureRisk to build portfolios from a list of external funds that are vetted by BSAM. Currently approximately forty outside funds are offered through the Open Architecture Platform.

insight into the risk of the portfolios. Further, various upfront restrictions are placed on the manner in which the external fund managers may invest BSAM's capital.

Private Equity

BSAM manages three private equity funds directly and four private equity FoFs, and has investments in several external funds and FoFs. In addition, BSAM has three investments in outside funds which it considers strategic investments, and are thus managed along with other strategic investments (discussed separately below). The three direct private equity funds have a venture capital focus (early to mid-stage companies), specializing in the digital media, communications, technology, and healthcare sectors. BSAM's private equity FoFs invest in external funds that pursue a variety of strategies and investment types – e.g., venture capital, distressed companies, real estate, mezzanine debt, and LBOs.

BSAM's FoF business gives it a “secondary” private equity presence. Some of the FoFs are exchange listed and/or trade in a secondary market. In addition, FoFs provide some additional ability for private equity investors to more rapidly inject and remove capital. As previously discussed, traditional private equity funds call investor commitments over time as opportunities are exploited, and those funded investments may then be locked up for several years. Alternatively, secondary products help investors avoid the so called private equity “J-curve”.

The time horizon of BSAM's private equity investments can vary. For instance, of its current investment the business expects to start withdrawing some or all of its equity any time between December of 2007 and 2017.

Investment Approval and Risk Management

Various internal due diligence and governance processes are in place at BSAM for approving and seeding new funds and vetting new fund managers, establishing guidelines and risk parameters for directly managed funds and monitoring the risk positions of those funds, selecting private equity investments, and investing in external funds. When new funds of any type that require seeding are launched, approval is required by internal BSAM management/Committees, as well either the Bear Stearns Executive or Management and Compensation Committee. In order to carry out the ongoing risk management of the business, BSAM has established various supervisory and oversight committees, as well as a dedicated risk management group¹⁷. For instance, there is an internal Risk Committee which monitors and analyzes market and credit risks, compliance with investment guidelines, etc., a New Products Committee which approves all new investment products and services, a Price Valuation Committee, and of course a senior Management Committee.

Bear MeasureRisk provides a battery of analytics by which fund portfolios are monitored and analyzed. For instance various market risk sensitivities for different types of instruments are computed (e.g. interest rates and credit spread DV01s, equity delta and gammas, etc.), stress tests and scenario analyses are performed across numerous market risk factors, long, short, and net market values are reported by instrument type and geographic sector, VaR metrics are computed at various levels of aggregation and detailed portfolio risk decompositions are performed, etc. MeasureRisk also identifies risk concentrations and less liquid positions (e.g., an equity position

¹⁷ 2007 events relating to the difficulties faced by the BSAM “High Grade” and “Enhanced” funds are not discussed herein. However, following these events the Executive Committee decided to have BSAM's internal risk group, which consists of six full-time professionals, report to Mike Alix (the Bear Stearns CRO).

that represents greater than tens days of trading volume), computes leverage ratios, etc. MeasureRisk is also used for liquidity risk management purposes, for instance in monitoring unencumbered assets and current repo activity, assessing the impact of applying stresses to the haircuts on the firms secured financing activities, etc.

D. Arroyo Energy Investors

Arroyo Energy Investors was formed in April of 2003. The business primarily makes equity investments into “independent power” related projects in the United States. Arroyo engages in two main transaction types – investments in power purchase agreements as well as in power plants, both of which involve a long-term above market power purchase agreement (PPA). Arroyo is typically either purchasing/investing directly in an independent power producer (IPP), or monetizing contracts for an IPP (through a SPV) that is party to long-term contracts that enables it (the IPP) to sell power at well above market prices.¹⁸ These deals tend to involve older plants that, but-for these long term PPAs, would not operate profitably. In other words, these plants are often producing power more expensively than can be purchased in the spot market.

As of December 2006, Arroyo had investments in five PPAs which it has restructured (carrying value \$47 million), and two power plants (\$30.9 million). Separately, the business has two legacy investments acquired in connection with Section 29 tax credits; investments involving ownership of a Coke battery in a steel plant and rights to natural gas. Since being formed in 2003, the business has sold/exited investments in two addition power plants – meaning it had made a total of nine investments as of December 2006. Also, in January 2007, the business also closed a deal to purchase 18 power plants from Delta Power.

Arroyo’s business plan for its investments is to make commercial and operational enhancements to an IPP investment by executing contract amendments or exercising existing options with the original project documents that materially increase the expected cash flows, or executing contract amendments or implementing commercial directives that reduce the risk (uncertainty) of future cash flows. Because these transactions always involve PPAs, this business does not create a lot of energy price (market) risk. Not all projects have perfectly matched supply and off take positions, so the business attempts to hedge any remaining market risk (it also hedges interest rates risk). In other words, the business model is to lock in streams of highly predictable cash flows (which can then be valued as annuities using discounted cash flow methods). Therefore, the most material risks born by this business are the credit risk to the power purchasers, and the operational risk to the power plants. Much of the operational risk is actually insured away. Regarding the counterparty risk, the sentiment at Bear seems to be that, since these PURPA contracts have been “blessed” by state and federal regulators, if a utility (power purchaser) was to go bankrupt, IPPs would be placed at the top of the pecking order of creditors.

¹⁸ In 1978, the Public Utility Regulatory Act (PURPA) required utilities to purchase power from independent power producers as a way of promoting competition and efficiency (the country was in the midst of an energy crisis). Before this legislation, only traditional utilities could own and operate power generating plants. Many IPPs signed contracts to sell power to utilities in the 1980s at prices that are well above current spot prices. In the 1980s and 1990s, there was a lot of development of IPP projects by industrial companies and entrepreneurs. Over the last five or so years, as there has been stress on these businesses, financial firms have begun to consolidate a significant amount of ownership of IPP assets.

As illustrated above, the Arroyo business makes relatively few investments, each of which involves extensive due diligence and negotiating, taking several months. The due diligence performed is obviously not just financial in nature, but is intensive in terms of technical, environmental, and legal concerns. As a result, Arroyo hires third party engineers and attorneys to examine and report on the past and likely future operating performance of physical power plants, examine litigation and third-party liabilities, environmental compliance, etc. Often at the end of the due diligence process, the business declines to further pursue the opportunity. All of Arroyo's investments are approved by the Executive Committee.

This investing business is currently managed separately from the (new) commodities trading business, also located in Houston. However, there appear to be aspirations of pursuing synergies between the two desks, given the highly physical focus of the Arroyo team.

E. Strategic Investments

Bear has established a Corporate Strategy Group (CSG), comprised of fourteen "forwardly deployed strategy people" who work for the businesses in helping decide where to grow and shrink their activities. CSG is a centralized department which is involved in Bear's acquisitions as well as strategic investing processes. For instance, the CSG was engaged in Bear's decision to vertically expand its mortgage business through BearRes and Encore. But it also seeks to ensure that strategic investment opportunities are reviewed using a consistent, rigorous process, and are presented to senior department managers and the Executive Committee in a fair and consistent manner. The group also performs ongoing risk management and oversight of strategic investments. The current carrying value of Bear's thirteen Strategic investments managed through this group is \$170 million.

Strategic investments, which can either take the form of investments into private equity funds or direct corporate investments, are not entered into because of the potential returns of the investment opportunity on a stand alone basis. Such investments also entail expected supplemental returns to the overall Bear franchise. Strategic investments can either improve Bear's competitive position (e.g., an investment into a stock exchange) or are done to facilitate a customer relationship. For example, one of Bear's existing strategic investments is in a relatively new hedge fund managed by the Carlyle Group. While Bear would not have wanted to make a principal investment in this fund purely for the sake of doing so, Carlyle pays in the ballpark of \$1 billion in fees to Wall Street firms annually, and is a particularly large commercial real estate player. Bear is quite active in CMBS markets via loan origination and securitization, as well as in terms of its investment banking sector expertise. For instance, the recent and highly publicized leverage buy-out of the Equity Office Products REIT was a Carlyle deal. Bear was the primary M&A advisor and was one of three primary financing arrangers for the deal, which was considered a success.

APPENDIX B: GOLDMAN SACHS

A. Overview of Activities and Senior Governance

Goldman publicly discloses a “principal investments” number, which is comprised of its outsized investments in Sumitomo and the Industrial and Commercial Bank of China (“ICBC”), as well as seed capital in internally managed Merchant Banking funds. However, the firm also makes considerable private equity and similar investments through its trading, or Securities division.¹⁹ The firm also seeds internal hedge funds and traditional funds, and invests in third party funds, but this is much less material than the other investment activities. The net carrying values of Goldman’s principal investments by broad category are summarized below²⁰:

Sumitomo -	\$1.435 billion
ICBC -	\$1.914 billion
Merchant Banking ²¹ :	
Corporate (PIA) -	\$3.675 billion
Real Estate (REPIA) -	\$0.588 billion
Trading Division -	\$6.375 billion
Asset Management:	
Hedge Funds -	\$48 million
Traditional Funds -	\$214 million

Merchant Banking

Goldman’s Merchant Banking Business has two major business divisions – the Principal Investment Area (“PIA”) and the Real Estate Principal Investment Area (“REPIA”). The former makes equity and debt corporate investments, while the later makes equity and debt real estate related investments.

Principal Investments Area (PIA)

Goldman formed PIA in 1991. The business pursues two primary strategies. GS Capital Partners funds make private equity investments and GS Mezzanine Partners funds invest primarily in corporate mezzanine debt instruments. The mezzanine funds comprised \$582 million of the \$3.675 billion total PIA related investment in Q4-2006. PIA also makes some Venture Technology Investments, which are purely Goldman positions (are not made through the institutional funds). As of 2006, the carrying value of such positions was \$149 million. Thus the majority of Goldman’s share of the PIA investments is made in private equity.

¹⁹ For public disclosure, Goldman uses two stress tests for reporting the risk of positions held by the Securities divisions that are not included in (or well captured by) VaR. One stress result is reported for equity positions and another for debt positions. For purposes of this report we have included the positions disclosed through the equity stress test.

²⁰ All values are net of any hedges or liabilities held at the investment company level, in an attempt to show the true economic value of Goldman’s interest.

²¹ Goldman’s adoption of SFAS 157 in Q1 2007 resulted in a one time gain of approximately \$500 million for the Merchant Banking Division.

As of 2006, PIA had launched five Capital Partners funds and four Mezzanine Partners funds. The following two tables summarize the history and size of the funds, as well as Goldman's fund commitments:

Fund	Year Closed	Total Commitment	GS Commitment ¹
Broad Street ²	1986	\$250 million	\$25 million
Water Street ²	1990	\$783 million	\$100 million
GSCP/Asia	1992/94	\$1.335 billion	\$375 million
GSCP II	1995	\$1.750 billion	\$300 million
GSMP	1996	\$800 million	\$100 million
GSCP III	1998	\$2.775 billion	\$500 million
GSMP II	2000	\$1 billion	\$166 million
GSCP 2000	2000	\$5.250 billion	\$600 million
GSMP III	2003	\$2.001 billion	\$452 million
GSCP V	2005	\$8.506 billion	2.535 billion
GSMP 2006	2006	\$5.250 billion	\$2 billion
Total		\$29.7 billion	\$7.153 billion

¹ Does not include commitments of Goldman employees.

² Goldman first began establishing partnerships allowing outside customers to co-invest in long-term equity opportunities in 1986. Thus the Broad and Water Street funds preceded the formation of the PIA business in 1991.

Fund	Total # of Investments	# of Remaining Investments	Remaining Investment Carrying Value	Gross IRR
Broad Street	21	0	0	30.00%
Water Street	22	0	0	33.00%
GSCP	49	0	0	34.00%
GSCP Asia	17	0	0	17.00%
GSCP II	54	6	\$97 million	7.00%
GSCP III	73	17	\$300 million	1.00%
GSCP 2000	59	27	\$3,226 million	34.00%
GSCP V	33	32	\$9,854 million	
GSMP I	17	0	0	13.00%
GSMP II	25	10	\$557 million	18.00%
GSMP III	36	24	\$2046 million	
GSMP 2006	16	16	\$4,540 million	

As shown above, Goldman's cumulative \$7.153 billion investment through 2006 represented 24% of the total capital committed to the funds. In addition, in 2007 Goldman closed GSCP VI, which has approximately \$20 billion in commitments, approximately \$6 billion of which came from Goldman. An observation that stands out from the fund histories is that the Capital Partners funds have gotten larger over time while the number of investments in each fund has reduced. In other words, the funds have become less diversified over time, as the overall trend in the LBO industry has been one towards pursuing larger buyout targets.

The Capital Partners funds currently target equity investments in the range of \$200 million to \$800 million in companies with enterprise value of between \$500 million and \$25 billion. In other words, the business makes relatively large investments in what tend to be larger and more mature companies. The business pursues a variety of transaction types, such as leveraged buy-outs, public-to-privates, build-ups, strategic capital investments (e.g., to fund an acquisition), and PIPEs. It invests in a wide variety of industries worldwide. The particular mix of investments in terms of industry and geography depends on the available opportunities; for instance, Asia was a large growth area last year. Target investment horizons are between three to five years and a variety of exit strategies are employed, including strategic sales, sales to other investors, IPOs, and withdrawing money via dividend recapitalizations. The mix of exit strategies used at any particular time depends largely on market conditions. For instance, more recently sales to other private equity firms have become more common. PIA sources about 75% of its deals from Goldman Sachs relationships, including through relationships with financial sponsors. In terms of the amount of control PIA asserts over its investment companies, the business puts people on the boards and sometimes brings in new management (possibly as part of the initial investment thesis).

The Mezzanine Partners funds target investments in the \$70 million to \$500 million range. The funds lend to established companies with stable cashflows, typically with enterprise values in the range of \$500 million to \$10 billion. BSMP investments fund acquisitions, recapitalizations, etc., and are generally structured as subordinated debt (both loans and bonds) with typical high yield terms and a small equity component. The business also makes some direct equity investments. The vast majority of investments are in private companies.

Risk Management

The senior investment decision making body at PIA is the Investment Committee (IC), which is comprised of 22 managing directors, chosen by the Goldman Sachs Management Committee. The Investment Committee members include all PIA partners, PIA's CFO, PIA's legal counsel, the Goldman Sachs Controller, and two senior members of Investment Banking. Deal teams conduct extensive due diligence on potential investments, utilizing outside professionals and consultants in the process. Deal memos are provided to the Investment Committee for approving transactions. Typically sessions for approving transactions last hours, and changes to the investment plans often result. PIA personnel assert the IC is very focused on what the deal teams plan on doing with a company once they own it, and what the exit strategy is. For instance, some investments companies may never be an IPO candidate; in such instances the IC seeks to understand exactly why the deal team feels another buyer will be there down the road. While every investment is approved by the IC, certain investments may be referred up to Goldman's Management Committee; however, there is no formal requirement for it to do so. In addition, the Investment Committee solicits advice from other Goldman personnel, such as staff in the Investment Banking or the Credit departments, in evaluating deals.

Fund Guidelines (Partnership documents) include broad concentration limits, which dictate that no more than 15% of fund capital can be invested in any one company. The Investment Committee then exercises further discretion and, in practice, typically no single investment represents more than 10% of the fund. The IC also considers product type/industry diversification, above what is stated in the partnership documents, when determining investment strategy and mix. Also, typically three to six months pass between when Goldman agrees to a

deal (signs) and the deal closes. During this period the business can further decide whether it wants to hold the entire exposure, or bring in co-investors – namely other financial sponsors or other Goldman businesses (e.g., Private Wealth Management).

In addition to approving investments upfront, The Investment Committee is also responsible for the ongoing oversight and valuation of investments, and meets every Tuesday to discuss events in the portfolio.

Real Estate Principal Investments Area

The following table summarizes the history of REPIA funds, as of 2006:

Fund	Total Commitment (Equity)	GS Commitment	# of Remaining Investments
Whitehall I & II	146	24	0
Whitehall III & IV	805	200	0
Whitehall V and VI	1,055	200	4
Whitehall V-S & VI-S	150	28	0
Whitehall VII and VIII	1,350	250	10
Whitehall IX and X	1,625	250	7
Whitehall XI and XII	2,261	400	17
Whitehall XIII/XIIP	1,860	400	29
Whitehall Global 2001	2,480	402	51
Whitehall 2005	3,804	900	47
GS Core Plus	145	17	6
GS Emerging Market	375	50	2
Infrastructure Partners I	6,541	749	3

Currently, the REPIA business targets equity investments in the \$25 to \$150 million range, and mezzanine debt or preferred equity investments in the \$15 million to \$100 million range. The target investment horizons are four to five years. The geographic allocation of the business's investments is 54% Americas, 38% Europe, and 8% ASIA.

Securities Division

The majority of equity principal investments generated through Goldman's Securities Division are owned by two businesses, the Special Situations Group (SSG), and the Goldman Sachs Principal Strategies (GSPS) desk. As of November 2006, the carrying value of SSG's relevant positions was nearly \$4 billion, and GSPS's was nearly \$1 billion. Given the relatively small size of initial GSPS and SSG investments, which is typically less than \$20 million, no discussion of deal approval is warranted.

Goldman Sachs Principal Strategies (GSPS)

GSPS is purely a proprietary desk. Generally speaking, the desk pursues a fundamental long-short equities strategy. The business does a lot of "bottoms up" stock picking, and is very focused on hedging out the risks it does not want. For instance, traders will hedge out the commodities market risk of investment companies. The desk is also a very large user of single

name equity puts. While focused on equity-like rewards, GSPS traders will look across the corporate capital structure for opportunities; however the business has not been at all focused on debt investments more recently. At times, the traders will also use volatility to express views.

As of 2006, approximately 8% of GSPS's net market value of positions was in private companies, with the rest in public securities. However, private deals have been generating more than 8% of the business's P/L; and the desk's hit rate on private deals (the percentage of investments for which the desk has met or exceeded its internal required rate of return) has been greater than 90%. Thus while these positions are less liquid, there is a view that they are "worth it". The business heads wants to grow its private activities to between 10% and 15% of GSPS book in the coming years.

GSPS's private investments are much smaller than those made through the Merchant Bank; the largest as of November was \$78 million. The business does not pursue the "ten year LBO type investments". For private deals the target investment horizon is three years or less. While the business does invest on an equity basis, the traders are often able to structure deals in a way that can limit the economic downside – for instance by creating a special class of equity or structuring the transaction so that Goldman gets to take money out of the company before other equity investors. Furthermore, the business is very focused on removing or protecting against any "perverse flexibility" the companies' management may have. Although, as a general principle, GSPS acts as a passive minority investor in companies. As a matter of policy the desk does not take majority stakes, because of the resulting consolidation that is triggered for accounting purposes. Consequently, if the business identifies an opportunity where it would like to buy an entire company, the traders will look to bring in outside co-investors. GSPS personnel will take Board seats, and likes to think of themselves as "value added" investors. However, GSPS staff will only take seats in situations where it is felt "necessary", and will drop the seats once the company goes public.

While GSPS does not pursue large investments, it will sometimes engage in the more start-up or venture capital type investments. These entail a large probability of losing the entire investment (around 80%), but the winners can make ten or twenty times the investment. In contrast to this venture type risk, the desk will also "do things on the really safe side".

Goldman Sachs Special Situations (GSSG)

GSSG, which is also a pure proprietary (or buy-side) business, describes its mandate as "investing the firm's capital across all levels of corporate capital structures and in numerous other investment activities seeking optimal returns on a risk adjusted basis." Investments in corporate capital structures include of course public and private equity (as well as PIPEs), bonds, loans, distressed bonds and loans - but also middle market lending, mezzanine lending, DIP and rescue financing, etc. Thus the business invests in various ways in large and small companies. In addition to investing in individual companies, SSG buys portfolios of corporate, consumer, and real estate related receivables/loans/leases – for example portfolios of credit cards, auto loans, and non-performing mortgages. It also invests in other physical assets - e.g., power plants and golf courses, and pursues investments that entail some tax component. In all, SSG's net balance sheet is greater than \$20 billion.

Like GSPS, this business pursues a completely different type of private equity investment than the PIA business. Namely, SSG invests smaller amounts (\$25 million is their maximum

threshold), typically in less mature companies (it does no LBOs). It also does not take a very active role in running the companies it invests in - relying on the management teams it has identified or partnered with. While private equity investments are not currently a dominant component of SSG's book, this activity has become more important recently, particularly in Asia. SSG personnel note that the average life of their deals has been pushed out from around 18 months to 22-24 months over the last few years, driven in part by some of the private equity transactions. Some of these deals (in particular some of the ones that have made the financial press), actually involve SSG buying physical assets along with an operating partner (with industry/management expertise) to create an operating company. The exit strategy for such deals can often entail an IPO.

Two of the more successful deals that SSG has done more recently in have been Accordia Golf and Horizon Wind Energy. With Accordia SSG began purchasing Japanese golf courses around 2001, and formed a management company by hiring management it met through a related distressed deal. While originally the business thought it might pursue individual asset sales, it ended up taking Accordia public in 2006 (after building it up for five years). Horizon, meanwhile, involved Goldman making investments in wind farms starting in 2005, when it purchased the then private Horizon (which was followed by several more rounds of capital infusions throughout 2006). While it was originally thought that investment would likely culminate in an IPO, an opportunity came along to pursue a strategic sale in 2007.

APPENDIX C: MORGAN STANLEY

Business Overview

At Morgan Stanley, Private Equity and Principal Investment transactions primarily occur within two businesses units—Morgan Stanley Principal Investments (MSPI), which resides within the Institutional Securities Group (ISG), and Asset Management (also referred to as Morgan Stanley Investment Management (MSIM)).²² MSPI's transactions have more of a “traditional” private equity flavor where the firm seeks to earn returns through long-term capital appreciation, often with a capital markets activity take-out at the end of the investment period. MSIM, on the other hand, is predominately a fee-based asset management business where the goal is to enhance the firm's ability to grow fee-based businesses or to maintain their status as a market participant.

Internally, Morgan Stanley further classifies these activities as business facilitation, principal investment, miscellaneous employee compensation plans, or other.

Business Facilitation investments, which are made to support core business activities and advance business growth, include the following:

- Private equity funds – Investments in private equity funds within Asset Management.
- Real estate funds – Investments in Morgan Stanley Real Estate funds within ISG.
- Other asset management seed capital – Investment in the Core or Alternative Investments business units (typically an equity, fixed income, or hedge fund investment).
- Industry utilities – Investments made to participate in an industry consortium or an industry service (e.g., Markit Partners or the NYSE).
- Exchange memberships – Investments that provide the broker-dealer with the right to do business on the exchanges of which the broker-dealer is a member. This can include both trading rights (the actual membership) and an ownership interest in the exchange (the ownership interest may be required in order for the broker-dealer to do business on the exchange).
- Structured investments – Investment made to support core business activities and advance business growth through monetization of losses generated from the investment and used against Morgan Stanley taxable income or to assist clients in achieving a desired tax result.
- Community investments – Legislated program investing (i.e., Community Reinvestment Act) made as part of requirements to operate as a regulated banking entity.
- Other – Any investment not included above, but made to support core business activities and advance business growth. This includes investments in Landsdowne Partners, Avenue Capital Group, and China International Capital Corporation.

Principal Investment includes all investments made primarily for capital appreciation purposes. While Principal Investment involves some level of business facilitation, the primary strategy is to earn a return through long-term capital appreciation.

²² See Exhibit 1 in the Appendix for an Organization Chart

Miscellaneous Employee Compensation Plans are investments made in connection with a firm sponsored deferred compensation or investment plan opened by the firm for the benefit of employees. Firm owned positions are off-set by liabilities to employees.

Other investments are simply those that do not fall within one of the three categories listed above.

Morgan Stanley Principal Investments (MSPI)

As mentioned above, MSPI seeks to earn returns through long-term capital appreciation, often with a capital markets activity take-out at the end of the investment period. MSPI achieves this by investing Morgan Stanley's own capital (i.e., they do not invest with third part money) in areas where they can act as both a strategic and financial partner. Ed Sabounghi, Chief Operating Officer (COO) of Corporate Credit, pointed out that one of MSPI's objectives is to partner with companies that have skilled managers because they do not necessarily want to manage businesses. Additionally, MSPI representatives may serve on the Board of Directors of companies being invested in; however, the purpose is not to be an active participant (unless some type of workout is being undertaken), but more for informational purposes.

Joint Venture – While MSPI organizationally resides under FID within ISG, the business is actually a joint venture between Investment Banking (IBD), Fixed Income (FID), and Institutional Equities (IED). The three divisions are economic owners split by the bulk of work done and the content of work done. The split is roughly 45% IBD, 45% FID, and 10% Equities.

Sourcing for MSPI investments comes from both internal and external sources. One of the larger internal sources is Global Wealth Management (GWM) who might come across a deal that they may not be interested in because of its small size; or a deal might be exceptionally large (e.g., TXU), so MSPI might receive a call to see if they would like to take a portion of the deal. External sourcing includes corporate clients, financial sponsors, individual investors, and institutional investors.

Investment Structures – MSPI makes a majority of its investments through eight types of structures:

- Platform investments – in which MSPI provides capital to fund further growth through acquisition or organic expansion.
- New business initiatives – where they partner with talented management teams or corporate clients to identify and create unique investment opportunities.
- Shareholder recapitalizations – that provide capital to facilitate the recapitalization or refinancing of attractive companies facing short-term challenges.
- Structured joint ventures – where MSPI joins with the firm's corporate partners to provide financing structures that are intended to maximize value for the client and the firm.
- Pre-IPO investments – in which the business invests in companies that are on the verge of going public. Their intent is to provide pre-IPO funding when they find a client who wants capital earlier than can be achieved through an IPO. Depending on what the timescale of the investment is (usually event dependent); the firm may sell their holding

shortly after the IPO, or continue to hold until the stock reaches a pre-determined target price.

- Mezzanine debt – where MSPI provides capital to corporate clients in situations where traditional high-yield financing is unavailable. Mezzanine debt incorporates equity-based options, such as warrants, resulting in a lower-priority debt. This structure is often used to finance acquisitions and buyouts, where it can be used to prioritize new owners ahead of existing owners in the event that a bankruptcy occurs.
- Leveraged buyouts – which are investments where MSPI partners with private equity funds to pursue Leverage Buyout (LBO) transactions. An LBO typically involves the takeover of a company or controlling interest in a company, using a significant amount of borrowed money. The target company's assets often serve as collateral for the borrowed money.
- Debt/Equity conversions – which are opportunistic investments in companies during transition periods caused by market dislocations or inadequate balance sheets. A Debt/Equity conversion can also be a forced conversion that results in a convertible security being called against the will of the holder.

MSPI's investments typically range in size from \$15 million to \$250 million and have a maximum duration of 5 years (with typical durations of 2 to 3 years). MSPI focuses on risk adjusted return when considering an investment with a target IRR in excess of 20%. Mr. Sabounghi noted that it has been difficult to find larger investments that return 20% IRR, hence their reasoning for evaluating investments on a risk adjusted basis.

Morgan Stanley Investment Management (MSIM)

As previously mentioned, MSIM is predominately a fee-based asset management business where the goal is to enhance the firm's ability to grow fee-based businesses or to maintain their status as a market participant. This is accomplished primarily by using the firm's capital to seed investment strategies that MSIM intends to sell to clients. Examples of these investment strategies include Alternative funds, Equity funds, Fixed Income funds, and Private Equity funds.

Alternative funds are solutions oriented vehicles that are often structured with a specific client (or group of clients) in mind. By seeding alternative funds, MSIM helps the fund establish a track record and shows that they have skin in the game. There are currently 31 alternative funds that receive seed capital in excess of \$1 million from MSIM. Only 3 of the 31 funds are hedged.

Equity funds are traditional equity funds that are managed against a benchmark with expected redemption of MSIM's seed capital within one to two years. There are approximately 30 equity funds (which receive seed capital in excess of \$1 million), and MSIM hedges the systematic risk on all except 3 of the funds.

Fixed income funds are traditional funds that, similar to equity funds, are managed versus a benchmark. MSIM has provided seeding in excess of \$1 million to 8 fixed income funds, and generally hedges out a substantial portion of the interest rate risk. The funds provide daily or monthly liquidity to investors with MSIM's redemption of seed capital expected in one to three years.

MSIM also invests in private equity funds where Morgan Stanley is either the only general partner, or controls the general partnership of the fund. MSIM currently provides seed capital in excess of \$1 million to 8 private equity funds with zero hedging being done.

Success for each of the fund investments is judged based on the present value of the future stream of investment management fee revenues it attracts. As of month end January 2007, the amount of seed capital invested by MSIM, by strategy, were as follows:²³

(\$ in millions)

	Investment	% of Total	Hedged Portion	
			\$	%
Fixed Income Funds	193	9%	93	48%
Equity Funds	242	11%	236	97%
Alternatives	805	35%	84	10%
* Employee Def. Comp. & Bridge Funding	594	26%	N/A	N/A
Private Equity	437	19%	0	0%
Total	2,272	100%	413	18%

* Ken Winston stated that employee deferred compensations will no longer be on MSIM's balance sheet.

The table above shows that a substantial portion of MSIM's seed capital has been invested in Alternative type funds (which account for 35% of MSIM's total seed capital investment). The percent of total will be much larger when Employee Deferred Compensation is removed (which Ken Winston indicated has already been approved by Treasury and upper management).²⁴ Alternatives are classified as loans (i.e., CLO funds), structured products (e.g., hedge funds structured to hedge out inflation risk), ARS (which are hedge funds owned by Morgan Stanley directly), funds of hedge funds, or funds of private funds.

Product Mix

The table below provides a summary of business facilitation investments and principal investments by business segment. ISG (or MSPI) accounts for \$5.6 billion of the Firm's \$8.0 billion total with the Fixed Income division making up most of ISG's total investment balance. The largest portions of Fixed Income's total are \$2.0 billion of Structured Investments, mostly mezzanine reference assets for CDO structures, and \$1.6 billion in Principal Investments.

Outside of ISG, a substantial portion of the remaining investment balances reside in Asset Management (or MSIM) with the single largest line item being \$1.4 billion in Other Asset Management Seed Capital—where 15% is invested in fixed income funds, 20% in equity funds, and 65% in alternative funds. The \$210 million Private Equity Fund investment balance is seed

²³ It is important to note that 78% of the \$2.3 billion of the seed capital was funding in 2006. This is consistent with what we heard with respect to Morgan Stanley's recent commitment to provide dedicated funding to grow private equity and principal investment businesses.

²⁴ \$536 million of the \$594 million in this line item is Employee Deferred Compensation (which are funds available to Morgan Stanley Employees). The remaining \$58 million is bridge funding. Since the deferred compensation amounts represent all of Morgan Stanley's employees and not just MSIM's, the capital allocation will be spread out pro rata by division in the future. MSIM's pro rata allocation will be approximately 5% or \$26.8 million. Adding this to the \$58 million in bridge funding will make the Employee Def. Comp. & Bridge Funding amount approximately equal to \$84.8 million instead of \$594 million.

capital to private equity funds with a majority of the balance taking the form of bridge funding. Ken Winston, the risk manager for the Asset Management business, pointed out that this is probably one of the riskiest investments you can do in this product space.²⁵

Investment Schedule Stratification (as of November 30, 2006)

	Institutional Securities					Global Wealth Mgmt.	Asset Mgmt.	Discover	Total
	Fixed Income	Equity	Investment Banking	Other	Total ISG				
Business Facilitation									
Private Equity Fund	-	-	-	12	12	-	210	-	222
Real Estate Fund	-	-	608	-	608	-	-	-	608
Other Asset Mgmt. Seed Capital	-	-	-	-	-	-	1,412	-	1,412
Industry Utilities	221	236	-	3	460	20	0	-	480
Exchange Memberships	5	12	-	5	22	1	-	-	23
Structured Investments	1,988	-	-	-	1,988	-	-	28	2,016
Community Investments	-	-	-	57	57	-	-	20	77
Other	48	3	119	53	223	35	563	1	822
Total Business Facilitation	2,262	251	727	130	3,370	56	2,185	49	5,660
Principal Investments	1,581	118	44	106	1,849	-	-	-	1,849
Misc. Employee Comp. Plans	-	-	3	260	263	-	62	-	325
Other	0.1	-	0.03	124	124	-	0.1	-	124
Total by Business Segment	3,843	369	774	619	5,605	56	2,247	49	7,957

Morgan Stanley Real Estate

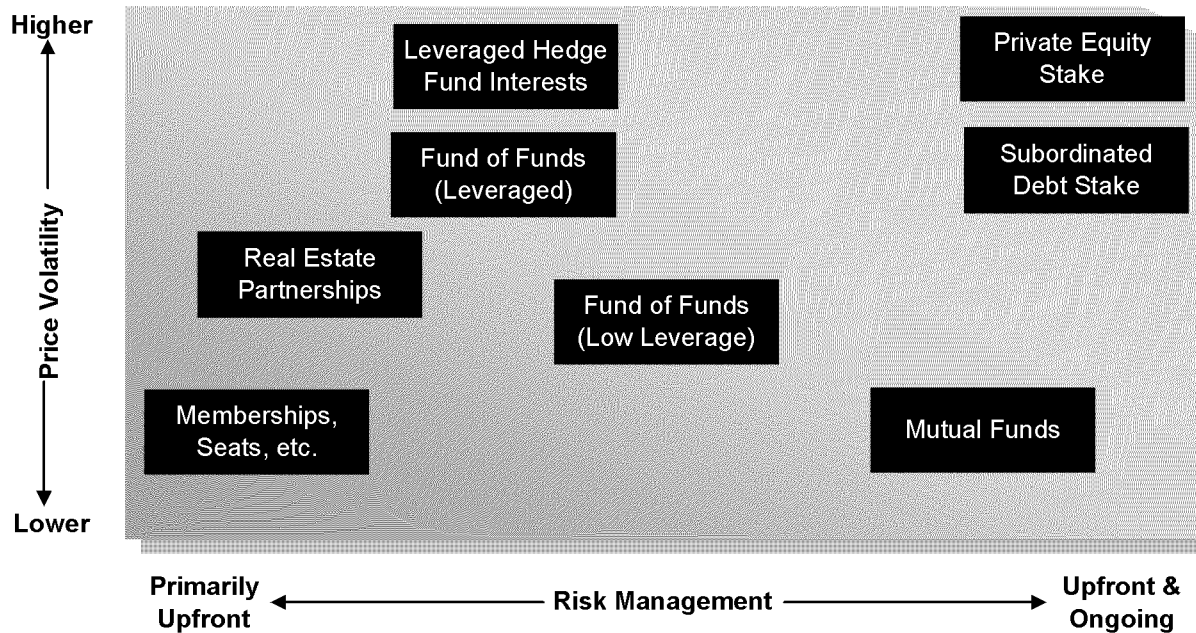
Morgan Stanley Real Estate is made up of three divisions—Real Estate Investment Banking, Real Estate Investing, and Real Estate Lending. The focus of this cross-firm project is the Real Estate Investing division, which is the largest manager of institutional real estate funds, with \$49 billion in AUM as of year-end 2006. However, as shown in the table above, Morgan's own investment in these funds was only \$608 million. As of March 31, 2007, these real estate funds increased to \$56 billion in AUM.

Risk Management

David Russo pointed out that while the Market Risk Department (MRD) is actively involved with risk monitoring and management for MSPI (which resides within ISG), MRD has little to no touch on risk management for MSIM (which is primarily risk managed by the MSIM Global Risk & Analysis group). The Global Risk & Analysis group is headed up by Ken Winston who reports dually to Owen Thomas (Asset Management) and Tom Daula (Risk Management).

Additionally, because the risk characteristics exhibited by the different types of private equity and principal investments vary significantly, so to does the level and frequency of risk management. As shown in the chart below, at one end of the spectrum are memberships or seats on trading exchanges that primarily entail upfront due diligence, but very little ongoing risk management. At the other end of the spectrum are private equity investments that exhibit high price volatility and require daily risk management.

²⁵ Other CSE firms such as Bear Stearns and Lehman Brothers stated that one of the riskiest principal investments is to provide bridge equity to firms or private equity funds with no track record.



MSPI Risk Management

Risk Governance – MSPI risk management begins at deal origination where asset acquisition requires approval of all relevant governing committees. MSPI investments under \$50 million require a sponsorship by Mitch Petridge whereas investments over \$50 million require the approval of the Institutional Securities Principal Investments Committee. The principal investments committee is chaired by Neal Shear, Head of Fixed Income, and is comprised of 13 voting members. The 13 members are senior managing directors across Firm Management, IBD, FID, and IED. There are two types of meetings that take place at this level. The first is more of an informal type of meeting where the business presents their idea for preliminary approval. If approved, the idea goes to the full 13 member committee for approval.

Significant acquisitions and investments require the approval of the Capital Structure and Strategic Transactions committee which is chaired by John Mack and includes Zoe Cruz, B. Scully, Tom Daula, David Sidwell, T. Nides, and David Wong as members. The Capital Structure and Strategic Transaction Committee reviews strategic and bolt-on acquisitions and divestitures in excess of \$250 million (e.g., Transmontaigne, Saxon, Frontpoint). Furthermore, strategic acquisitions/divestitures in excess of \$500 million are reviewed by Morgan’s Board of Directors, and the Principal Investing Committee reviews principal investments in excess of \$50 million.

Risk tolerances and risk limits – are set by the Firm Risk Committee which is chaired by John Mack and includes senior managers, the chief risk officer, and many of the other management committee members depending on the topic being discussed.

Risk Reporting and Monitoring – MRD includes principal investments in their daily risk reports, and provides weekly risk reports to the Securities Risk Committee and monthly reports to the Firm Risk Committee. While non-trading positions are not included in VaR, many principal investments (regardless of trading intent) are included in MRD’s weekly scenario analysis.

Certain investments such as seed capital, employee compensation plans, and fund ownership stakes are excluded from the risk reports and from scenario analysis.

MSIM Risk Management

Risk Governance – MSIM seed capital investments are governed primarily by the MSIM Senior Management Committee with additional oversight by the Seed Capital Committee and the MSIM Risk Management Committee. The MSIM Senior Management committee reviews all new products. The committee, which meets every Monday, is chaired by the president of MSIM, Owen Thomas, and consists of his direct report heads in Equity, Fixed Income, Alternatives, Private Equity, MSIM Global Risk, Legal and Compliance, Operations, IT, Sales, Product Management, and Controllers. The new product approval process requires that all new product proposals receive signoffs by all functional areas by the Wednesday prior to Monday's meeting, and that the Senior Management Committee has time to review the proposal and signoffs prior to the meeting.

MSIM also utilizes a Seed Capital Committee that is responsible for reviewing the outstanding seed capital and repatriates it as soon as possible. The Seed Capital Committee meets monthly and is chaired by Mary Alice Dunne, CAO of MSIM. If a product is unsuccessful, the Seed Capital Committee declares it so and closes the fund. Along with the Financial Controllers group, this committee also reviews the efficacy of the Global Risk & Analysis group's hedging program.

Risk tolerances and risk limits – Similar to MSPI, risk tolerances are set by the MSIM Risk Management Committee which meets monthly.

Risk Reporting and Monitoring – The MSIM Global Risk and Analysis group is responsible for MSIM risk reporting and monitoring and the MSIM Risk Management Committee, which meets monthly, is responsible for reviewing the capital at risk in detail (including hedging activity). The composition of this committee is similar to that of the Senior Management Committee.

Hedging – Because MSIM is primarily a fee based and not capital appreciation based business, an important aspect of risk management for MSIM revolves around hedging away as much market risk as is economically feasible. MSIM does not hedge in areas where systematic risk is difficult to pin down (e.g., FoFs where they are unable to see the underlying assets). Unhedged investments might include funds of hedge funds, funds of direct investing funds (in real estate and private equity), and hedge funds. Approximately 97% of MSIM's equity funds are hedged, almost half of the fixed income funds are hedged, but only a small portion (roughly 10%) of alternative investments are hedged.

For equity funds, MSIM typically uses index futures and FX forwards to hedge. MSIM uses Treasury and Gilt futures, FX forwards, interest rate swaps, and inflation swaps to hedge market risk in their fixed income funds. Ken Winston's MSIM Global Risk & Analysis group is responsible for putting on and managing the hedges.

Capital Calculation

All private equity and principal investments receive *banking book* treatment at Morgan Stanley. Basel II “Rules for Equity Exposures” are applied to calculate capital charges as follows:

- Simple risk-weight method with 100% risk-weight applied to private equity investment less than 10% of total capital.
- Investments in legislated programs are subject to 100% risk-weight up to 10% of total capital.
- Look-through approach applies to underlying fund positions to determine capital charges.

The table below provides a breakdown by sub-category of whether or not the sub-category is included for the 10% materiality threshold, what the risk-weight is for items below the threshold, and what the risk-weight is when above. All positions are currently below the 10% threshold; therefore receive a 100% risk-weight with the exception of items listed above.

Category	Sub-Category	Included for Materiality Threshold	Risk Weight	
			< 10% Limit	> 10% Limit
Business Facilitation	Private Equity Funds	Yes	100%	300-400%
	Real Estate Funds	Yes	100%	300-400%
	Other Asset Management Seed Capital	Yes	100%	300-400%
	Industry Utilities	No	100%	300-400%
	Exchange Memberships	No	100%	N/A
	Structured Investments	No	AIRB	N/A
	Community Development Credits	Yes	100%	N/A
	Community Investments	Yes	100%	300-400%
	Other	Yes	100%	300-400%
Principal Investments	Equity	Yes	100%	300-400%
	Debt	Yes	100%	300-400%
Employee Compensation Plans		-	-	-
Other Investments		No	100%	N/A

Unfunded Commitments – Unfunded ISG investments/private equity commitments totaled \$239 million and \$985 million as of May 31, 2007 and November 30, 2006, respectively. According to the firm, capital charges are not applied to unfunded investment commitments since there is no risk assigned to the unfunded amounts prior to the investment. Accordingly, these commitments are not applied towards the 10% threshold.

Materiality Threshold – MS excludes certain positions when calculating the materiality threshold. Joe gave the following reasons for the exclusions:

1. Industry utilities (\$481 million as of November, 2006) – Morgan believes that paragraph 352 in Basel II provides an exclusion because the investment has a long-term holding period, is part of long-term customer relationship, and there is no anticipation of short-term capital gains. Paragraph 352 is part of the PD/LGD approach, as opposed to the “Simple risk-weight Method,” which is a market based approach and not a PD/LGD approach. Basel II lays out the following options for calculating risk weighted assets for equity exposures:
 - (i) Market based approaches
 - a. Simple risk-weight method (Morgan’s method)
 - b. Internal models method
 - (ii) PD/LGD approach

Paragraph 351 clearly states that paragraph 352 (and 353) apply under the PD/LGD approach (see the excerpt below). The paragraph also says that the risk weights outlined in 352 are “minimum” risk weights, not risk weights that can be used in lieu of the higher 300% and 400% risk weightings as Morgan Stanley’s application does.²⁶

351. Under the PD/LGD approach, minimum risk weights as set out in paragraphs 352 and 353 apply. When the sum of UL and EL associated with the equity exposure results in less capital than would be required from application of one of the minimum risk weights, the minimum risk weights must be used. In other words, the minimum risk weights must be applied, if the risk weights calculated according to paragraph 350 plus the EL associated with the equity exposure multiplied by 12.5 are smaller than the applicable minimum risk weights.

2. Exchange memberships (\$23 million) – are not considered private equity investment by Morgan Stanley. They are instead treated as other assets and applied a 100% risk weighting.
3. Structured investments (\$1.6 billion) – are private equity investments in funds with no material liabilities. Examples include investment in funds which only invest in third-party debt securities. Morgan applies look through treatment using paragraph 360 of Basel II as justification—since the fund has no material liabilities, can look-through to the fund’s component holdings to determine capital charges.

360. Holdings in funds containing both equity investments and other non-equity types of investments can be either treated, in a consistent manner, as a single investment based on the majority of the fund’s holdings or, where possible, as separate and distinct investments in the fund’s component holdings based on a look-through approach.

4. Employee Compensation plans (\$325 million) – are investments in firm sponsored deferred compensation plans established by the firm for the benefit of Morgan Stanley employees. Morgan’s justification is that, for the most part, these plans are risk neutral because offsetting liabilities to the investments exist and the risk is borne by employees. Investments in excess of employee liabilities are risk weighted accordingly and include in the materiality threshold.
5. Other investments (\$124 million) – primarily consist of Cap Trust units or common equity investments in Trusts issuing preferred securities—these account for \$122 million of the \$124 million in other investments. Morgan Stanley, per Federal Reserve Final Rule dated April 2005, deducts common equity from tier 1 capital; hence, excludes these balances from capital charges. The remaining other investment balances receive a 100% risk weighting.
6. Legislative Programs investments – include \$372 million in community development credits and \$77 million in community investments. Morgan cites paragraph 357 of Basel II as justification. The firm applies a 100% risk-weight up to 10% of total tier 1 and tier 2 equity.

²⁶ Additionally, paragraph 352 does not say anything about exempting industry utilities from the materiality threshold. See the Appendix for the Basel II “Rules for Equity Exposures.”

Potential changes in capital treatment – In addition to the exceptions/exclusions listed above, Joe D’Auria also pointed out various areas where Morgan is rethinking their current capital treatment.

1. Real Estate Funds (\$608 million) – represent partnership (GP and LP) interests in funds that invest in portfolios of real estate assets. MS is contemplating (1) applying a look-through treatment or (2) treating this investment as income producing real-estate (IPRE) per paragraph 226 of Basel II. I am unclear whether or not a look-through approach applies (they may be able to make a case), but I am fairly certain that applying paragraph 226 is a stretch. Paragraph 226 states the following:

226. Income-producing real estate (IPRE) refers to a method of providing funding to real estate (such as, office buildings to let, retail space, multifamily residential buildings, industrial or warehouse space, and hotels) where the prospects for repayment and recovery on the exposure depend primarily on the cash flows generated by the asset. The primary source of these cash flows would generally be lease or rental payments or the sale of the asset. The borrower may be, but is not required to be, an SPE, an operating company focused on real estate construction or holdings, or an operating company with sources of revenue other than real estate. The distinguishing characteristic of IPRE versus other corporate exposures that are collateralized by real estate is the strong positive correlation between the prospects for repayment of the exposure and the prospects for recovery in the event of default, with both depending primarily on the cash flows generated by a property.

An equity investment in a real estate fund does not feel like providing funding to real estate. Additionally, paragraph 219 lists the following characteristics that must be met to qualify as specialized lending (SL), which is what IPRE falls under. Paragraph 220 establishes the fact that this section is applicable to specialized lending such as IPRE.

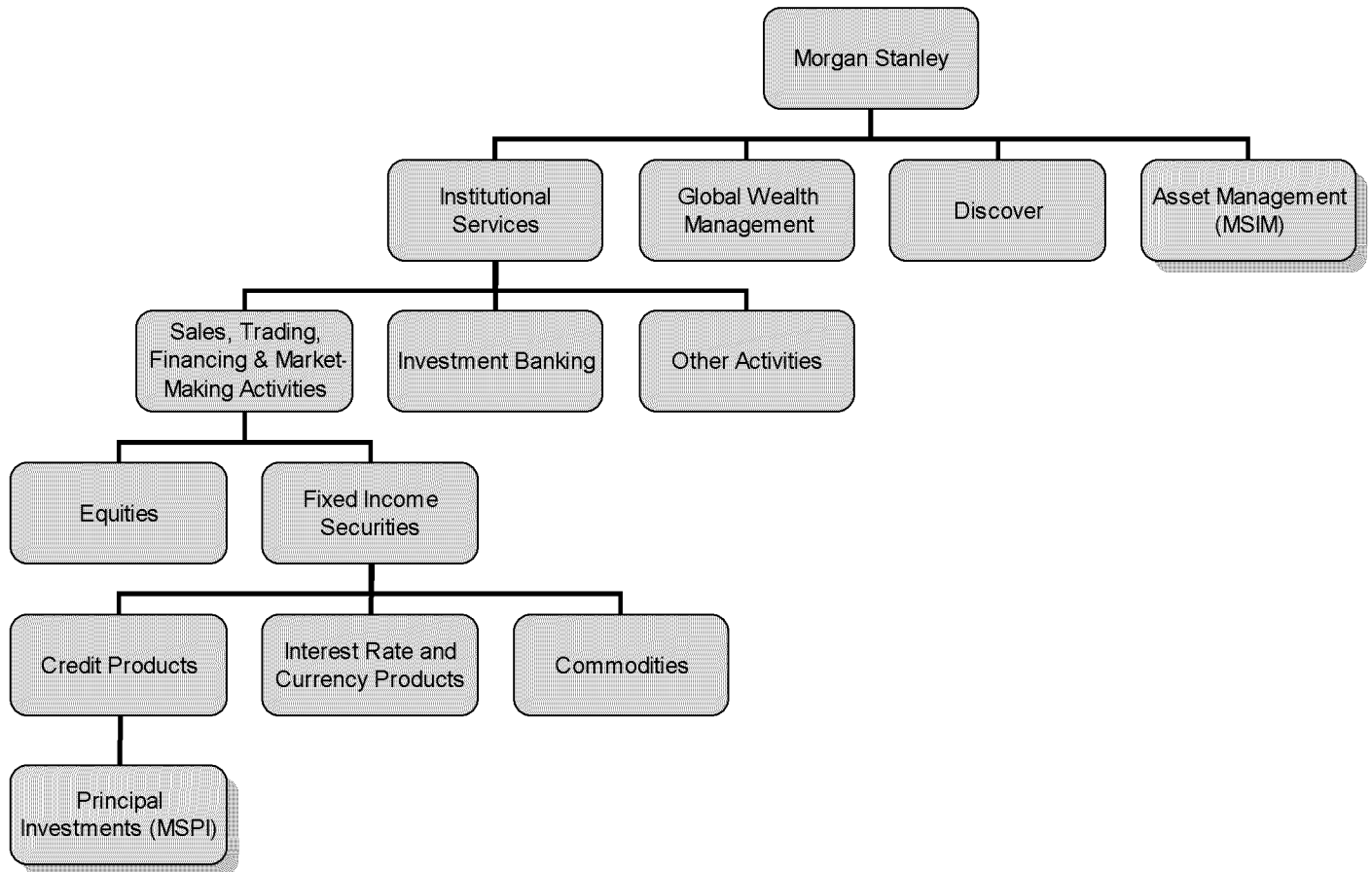
219. Within the corporate asset class, five sub-classes of specialized lending (SL) are identified. Such lending possesses all the following characteristics, either in legal form or economic substance:

- The exposure is typically to an entity (often a special purpose entity (SPE)) which was created specifically to finance and/or operate physical assets;
- The borrowing entity has little or no other material assets or activities, and therefore little or no independent capacity to repay the obligation, apart from the income that it receives from the asset(s) being financed;
- The terms of the obligation give the lender a substantial degree of control over the asset(s) and the income that it generates; and
- As a result of the preceding factors, the primary source of repayment of the obligation is the income generated by the asset(s), rather than the independent capacity of a broader commercial enterprise.

220. The five sub-classes of specialized lending are project finance, object finance, commodities finance, income-producing real estate, and high-volatility commercial real estate. Each of these sub-classes is defined below.

2. Asset management seed capital – Morgan has \$330 million in externally priced funds that have liquidity, invest in public securities, and provide frequent valuation [Follow up to get a sense of how liquid the shares are, what the investments are, and how frequently they are valued.] Morgan proposes treating these fund shares similar to mutual fund investments, which are subject to VaR treatment.
3. Business facilitation (other) – are listed equity positions, approximately \$43 million, that Morgan says are marked-to-market with frequent price information; hence, the firm proposes applying VaR treatment.
4. Principal investments – with and without restrictions that are marked-to-market and have frequent price information (approximately \$380 million of \$1.8 billion total).

Exhibit 1: Private Equity and Principal Investment Organizational Chart



APPENDIX D: LEHMAN BROTHERS

Business Overview

Until recently, Lehman Brothers' principal investments consisted primarily of commercial real estate and private equity. More recently, the Firm began providing seed capital to the Firm's Asset Management platform and began making strategic minority stake investments. In October of 2006, Lehman reaffirmed their commitment to principal investments by appointing Dave Goldfarb to the position of Global Head of Strategic Partnerships and Principal Investing. Mr. Goldfarb's responsibilities include oversight of Mergers & Acquisitions and Strategic Joint Ventures, Strategic/Corporate Principal Investments, and Proprietary Trading. The Firm believes that the appointment allows the principal investment businesses to leverage off of global relationships.

Lehman's Principal Investing businesses includes LB Private Equity, LB Asset Management Seed, Strategic Minority Stakes, and Corporate Investments.

- *LB Private Equity* creates funds and invests in asset classes where they have strong capabilities, proprietary deal flow, and a good reputation. The business invests the Firm's capital with clients' investments utilizing investment partnerships that manage the private equity portfolios. LB Private Equity asset classes include Merchant Banking, Venture Capital, and Real Estate.
- *LB Asset Management* – Through a variety of distribution channels, LB Asset Management provides proprietary asset management products, across traditional and alternative asset classes, to individual and institutional clients. Lehman Brothers typically provides seed capital to Asset Management investments.
- *Strategic Minority Stakes* consist of minority stake investments in hedge funds.
- *Corporate Investments* are principal investments and/or Limited Partnership ("LP") investments in third-party funds.

The basic theme we heard at Lehman, including from Dave Goldfarb, was that growing the Principal Investing businesses is a priority at Lehman. This is evident by the year-over-year ("YOY") growth displayed in the table below. From the 1st quarter of 2006 through the 1st quarter of 2007, Principal Investing grew by 173% (or \$3.1 billion) to end the quarter at \$4.9 billion. All four Principal Investing businesses contributed to the significant growth.

(\$ in millions)

Principal Investing	Q105	Q106	Q107	% of Total (as of Q107)	YOY Change (Q105 to Q106)*		YOY Change (Q106 to Q107)	
					in \$	in %	in \$	in %
Private Equity	1,443	1,105	2,617	54%	-338	-23%	1,512	137%
Asset Management Seed	206	359	1,078	22%	153	74%	719	200%
Strategic Minority Stakes	0	88	420	9%	-24	-21%	332	377%
Corporate Investments	95	236	762	16%	141	148%	526	223%
Total Principal Investing	\$1,744	\$1,788	\$4,877	100%	\$44	3%	\$3,089	173%

* For Strategic Minority Stakes, year-over-year change is Q205 to Q106, not Q105 to Q106, due to the lack of investment in the 1st quarter of 2005.

Part of Principal Investing's growth plan is for Dave Goldfarb to ensure that investments are well diversified so the business can maintain a very low level of concentration risk. The Firm feels that the keys to achieving this are to create more investment funds and to ensure that the framework and infrastructure are properly in place to support the increase in capacity. Steven Berkenfeld, Managing Director Chief Investment Officer, pointed out that the framework surrounding investment evaluation has three primary objectives—meeting obligations to LPs, protecting client relationships, and heightening efficiency. Mr. Berkenfeld also noted that Lehman is focused on attractive risk-adjusted returns (with a targeted minimum return of 15%), strategic objectives that help the Firm deploy capital in a partnership manner, and/or for relationship management purposes where, in addition to growing Principal Investing, the relationship will also drive Prime Brokerage, Fixed Income, and Equity.

Meeting obligations to LPs – One of the primary objectives under this framework is to ensure that obligations to the LPs in their Private Equity funds are fulfilled. Lehman Brothers' Private Equity relationships with LPs are governed by the Limited Partnership Agreement for each fund. This document sets forth the requirements for the General Partner (an affiliate of Lehman Brothers) in terms of its relationship and fiduciary responsibilities with respect to the Limited Partners. In addition, certain LPs will negotiate side letters that contain covenants and conditions that go beyond the terms of the Limited Partnership Agreement.

Protecting client relationships – Beyond meeting obligations to LPs, the Firm is also concerned with protecting client relationships by making investment decisions as quickly as possible and enhancing the certainty of the decision. The objective is to avoid stringing clients along by giving them an early read that they can reasonably rely upon.

Heighten efficiency – The Firm is seeking to improve efficiency by clearly identifying which part of the Firm will be allowed to invest as assets are identified. One deal team will be designated to lead each investment with other parts of the Firm piggybacking as needed. The deal team is responsible for performing due diligence, conducting analysis, executing the deal, and monitoring and monetizing the investment. Lehman feels that this is more efficient than having multiple deal teams conducting the same work. To improve efficiency further, management is also focused on increasing the clarity surrounding the internal approval process.

Investment Approval Process

The governance structure at Lehman Brothers relies heavily on committees to review and approve principal investments. The process that is undertaken for approval depends on whether the investment is for Lehman funds or principal positions; or if the investment is a minority stake, joint venture, or acquisition.

Investments for LB funds and principal positions require screening and approval by two committees—the Private Equity Screening Committee (“PESC”) and the Investment Committee (“IC”). First, deals are reviewed by a Private Equity Screening Committee. Each Lehman Brothers Private Equity Fund has a Screening Committee, consisting of the principals of the fund and personnel with expertise in the given asset class, that review every potential investment, including the risks, returns, and due diligence conducted. The investment must be approved by

the Screening Committee before proceeding to the second phase in the approval process, review by the Investment Committee.

Lehman's Investment Committee reviews and approves all non-public, equity, principal investments that are expected to be held for more than one year either because they do not have short-term liquidity (e.g., there is a lack of secondary market trading or there are trading restrictions), or because the Firm's intent is to hold the investment for an extended period of time. The Investment Committee does not review the Firms' proprietary trading activities or individual Lehman asset management seed positions. The Investment Committees authority is delegated to it by Lehman's Executive Committee.

Proposed investments for a Lehman Brothers Private Equity Fund generally are reviewed by the relevant Private Equity Screening Committee and by the Investment Committee. For some investments in certain asset classes, the review may, however, be handled by a summary memo rather than by a full memo and meeting. In addition, there are some smaller and more liquid investments made by certain funds (such as the MLP Fund), usually from secondary trading activities, that do not require any pre-approval from Committee.

All principal investment opportunities go through two allocation processes before they are presented for Committee approval. The first allocation decision is whether an investment should go to Lehman's private equity funds, or to the Firm. This decision is made by Dave Goldfarb and Steven Berkenfeld based on obligations to LPs in private equity funds and other relevant investment criteria such as risk adjusted return and return on equity. Other considerations that factor into the allocation process include (1) who sourced the deal, (2) which group has the best expertise to execute the deal, and (3) who is best suited to assist with the analysis and due diligence. If an investment is too big for any one fund, then the investment will be allocated to multiple funds or between private equity funds and the Firm.

Generally, Lehman Brothers Private Equity Funds target an IRR of 20% or higher on behalf of investors. Some investments, however, may still be attractive to the Firm on a risk adjusted basis even though falling below this IRR target of 20%. Thus the Firm may choose to take on investments that fall within an IRR range of 16-20%, but generally will not take on investments that fall below such a threshold unless they are undertaken for strategic or relationship reasons. Investments also have to be a good fit for Lehman's private equity funds as dictated by their very specific limited charters. Examples given by the Firm of assets that do not fall within these charters include Private Investments in Public Equity²⁷ ("PIPEs") and aviation investments.

²⁷ PIPEs are privately issued equity or equity-linked securities that are sold to accredited investors under Regulation D by public companies. Generally, private investment firms, mutual funds or other qualified investors purchase stock in a company at a discount to the current market value per share for the purpose of raising capital. There are two main types of PIPEs - traditional and structured. A traditional PIPE is one in which stock, either common or preferred, is issued at a set price to raise capital for the issuer. A structured PIPE, on the other hand, issues convertible debt (common or preferred shares). PIPEs are popular due to the relative efficiency in time and cost compared to more traditional forms of financing such as secondary offerings. In a PIPE offering, there are less regulatory issues with the SEC and there is also no need for an expensive road show, lowering both the costs and time it takes to receive capital. PIPEs are great for small- to medium-sized public companies that have a hard time accessing more traditional forms of equity financing.

Investments allocated to private equity funds undergo additional scrutiny to determine the fund best suited to place the asset in (i.e., is the asset best suited for a merchant banking fund, venture capital fund, fund-of-funds/secondary fund, co-investment fund, or a mezzanine fund). After this allocation decision is made, due diligence and analysis is conducted by the appropriate deal team and the investment is sent to the Private Equity Screening Committee.

If an investment opportunity is allocated to the Firm (as opposed to being allocated to a Lehman private equity fund), the exposure is either syndicated out or is held on the Firm's balance sheet as a principal investment. If the determination is made to keep the asset as a principal investment, then a deal team is assigned and due diligence and analysis will be conducted prior to sending the investment to the Investment Committee for approval.

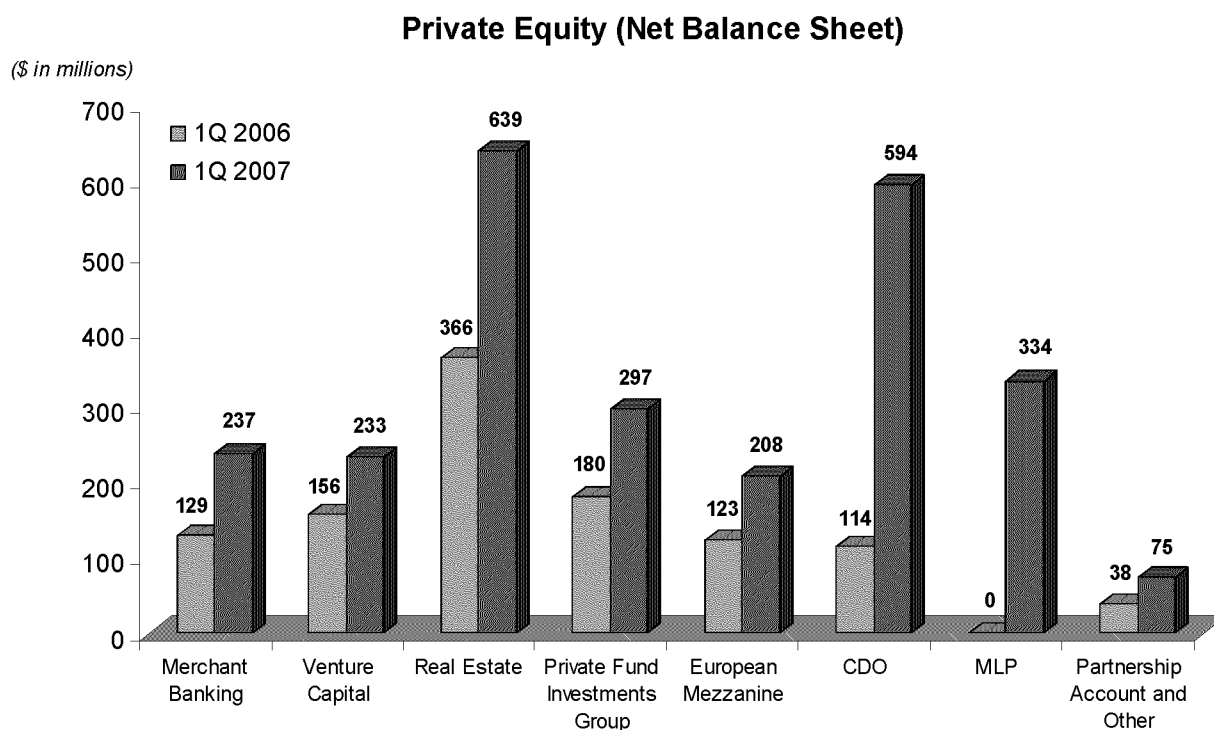
Minority stakes in hedge funds, joint ventures, and strategic acquisitions do not go to the Investment Committee for approval. These investments are reviewed and approved by the Strategic Acquisition Review Committee ("SARC") whose objective is to ensure that the Firm fully understands the potential issues that may arise in connection with a strategic transaction. The mandate of the Committee is to review the risks the transaction raises for the firm (i.e., reputation, legal, regulatory, market, counterparty, tax, and operational risk); to review the due diligence; and to review and assess the specific terms of the transaction. The SARC is comprised of members of senior management across multiple areas of the Firm. The due diligence and culminating presentations to the committee are typically made by an Investment Banking/Business team. The committee itself is composed of the Co-Chief Administrative Officers of the Firm as well as senior members of Legal, Risk Management, Corporate Strategy, Finance and Corporate Audit. The Committee is chaired by the Global Head of the Corporate Advisory Division.

Principal Investing Lines of Business

As previously mentioned, Lehman has four Principal Investing businesses—Private Equity, Asset Management Seed, Strategic Minority Stakes, and Corporate Investments.

Private Equity

Private Equity is the largest of Lehman’s Principal Investing businesses with \$2.6 billion in net balance sheet as of February 28, 2007. The graph below shows quarter end net balance sheet amounts as of the end of the 1st quarter of 2006 and 2007. All areas within the business contributed to Private Equity’s recent growth, but the largest contributor, in dollars and percentage growth, was Collateralized Debt Obligations (“CDOs”), which increased by \$480 million to \$594 million from the end of 1Q 2006 through 1Q 2007.



The Private Equity division is headed up by Michael J. Odrich, Global Head of Private Equity, and consists of 345 employees spread across eight offices. Globally, Private Equity manages a number of private equity portfolios, and has more than \$12.6 billion in assets under management invested in five main asset classes—Merchant Banking, Venture Capital, Real Estate, Private Funds Investments, and Credit Related Investments (i.e., European Mezzanine, CDO, and MLP).²⁸ The “Partnership Account and Other” consists primarily of Lehman employees’ investments in diversified pools of private equity assets.

²⁸ Business descriptions listed below are from Lehman’s web-site.

Lehman Brothers Merchant Banking manages funds that seek long-term capital appreciation through direct investments in established operating companies in partnership with management. The funds look to invest in companies with sound business fundamentals, proven operating teams and a compelling business strategy or vision. The Lehman Brothers Merchant Banking Group prefers to retain control over critical governance decisions in the companies in which it invests, regardless of ownership percentages, through board representation or ownership rights.

The Group was established in 1986 to achieve significant long-term capital appreciation through investments in private equity and equity-linked securities. Today, the team has over 30 investment professionals with offices in New York and London. Since 1986, Lehman Brothers Merchant Banking has raised and managed three institutional funds and several employee investment vehicles, with committed capital in excess of \$4.7 billion.

Lehman Brothers Merchant Banking Partners III L.P. is the Merchant Banking Group's current fund. The fund closed successfully in July 2005 with over \$1.2 billion of capital commitments from institutions, high net worth individual investors, and Lehman Brothers, its affiliates and employees.

The Venture Capital Group manages funds that focus on making investments in companies they believe are capable of turning innovative technology and management solutions into successful businesses, primarily in the technology and healthcare industries. The Group's primary investment focus is on mid- to later-stage privately held venture companies, as well as growth investments in more mature operating businesses. Venture Capital will make opportunistic investments in earlier stage companies with limited technology development risk.

Lehman Brothers launched its formal venture capital investment program in 1995. Lehman Brothers' Venture Capital has approximately \$1.1 billion in total committed capital to date, with \$717 million invested to date in 84 portfolio companies across a diverse range of industries and geographies.

The Venture Capital Group maintains offices in New York and Silicon Valley.

The Real Estate Private Equity Group is a full-service real estate merchant banking business which operates two opportunistic equity funds aggregating \$4.0 billion of equity capital and one mezzanine investment fund aggregating \$1.1 billion of equity capital. The funds are an extension of Lehman Brothers' global real estate franchise which advises, underwrites and invests and has participated in over \$125 billion of real estate transactions since 2000. The funds are invested and managed by a team of approximately 80 people in North America, Europe and Asia, and are headed up by managing directors and group heads, Raymond Mikulich and Mark Walsh.

Lehman Brothers' inaugural real estate private equity fund, Lehman Brothers Real Estate Partners (LBREP I), closed in 2001 with over \$1.6 billion in aggregate commitments and is now fully invested. Lehman Brothers Real Estate Partners II (LBREP II), a \$2.4 billion fund, closed in 2005, makes direct private equity investments in properties, real

estate companies and service businesses ancillary to the real estate industry in North America, Europe and Asia.

The group's inaugural \$1.1 billion mezzanine investment vehicle, Lehman Brothers Real Estate Mezzanine Partners (LBREM), closed in August 2005. Co-headed by Brett Bossung and Yon Cho, LBREM leverages the proprietary deal flow and origination volume of Lehman Brothers' global real estate business to invest in a broad range of mezzanine debt and other high yielding investments in real estate, primarily in the United States.

Private Fund Investments is made up of the Fund-of-funds group, Secondary Funds group and Co-Investment group.

The Fund-of-funds group has committed in excess of \$2.2 billion to more than 270 private equity funds, which in turn have made over 7,000 investments into underlying portfolio companies. The group has raised and managed 17 private equity funds since 1981. These investment opportunities are in third-party buyout, venture capital, mezzanine and special situation funds. The investments are in outside, non-Lehman funds (e.g., a KKR fund)

The Secondary Funds group seeks to purchase high quality, seasoned private equity fund portfolios from investors desiring liquidity prior to termination of those funds. This group is essentially making a one way buy and hold market. This is a growing business that is approximately equal to 5 percent of the primary market based on volume of annual transactions.

The Co-Investment group seeks to achieve superior risk-adjusted returns through investing in transactions led by premier private equity firms. These are essentially minority positions in buyout transactions. If there is a question as to whether an investment falls within this group or within Merchant Banking, Merchant Banking gets to look at the deal first.

Credit Related Investment activities include investments in collateralized debt obligations (CDOs) and European mezzanine debt. These funds invest in securities with equity-like returns and attractive risk/return characteristics.

The CDO Opportunity Fund invests in collateralized debt obligations, instruments created when asset-backed structuring technology is applied to a portfolio of credit exposure, such as bank loans or bonds. The Fund seeks to combine the credit market expertise and analytics of the Firm's fixed income franchise with the investment process and client relationships of the Private Equity business to seek current income and substantial total return performance.

Lehman Brothers CDO Investments Group makes investments in collateralized debt obligations, with specific expertise in the equity tranches of CDO transactions. The CDO Investments Group seeks to maximize long-term returns by investing in diversified portfolios of fixed income securities exhibiting strong relative value and managed by

premiere asset managers. In addition, the Group seeks to maximize returns by opportunistically investing in CDO transactions across all levels of the capital structure, and in certain cases, employing additional financial leverage.

The European Mezzanine Fund leverages Lehman Brothers' fixed income franchise to invest in privately negotiated mezzanine debt opportunities in Europe. The Fund's investment goal is to invest in established operating companies with dominant market positions, unique franchises, sound business fundamentals, and strong management teams.

Established in 2002, the European Mezzanine Investments Group invests capital in mezzanine loans and PIK notes. In 2004, the Group completed the raising of the €750 million Lehman Brothers European Mezzanine Fund which invests in opportunities that typically offer a high contractual yield and an additional return component consisting of warrants whose value is related to the equity value of the company. European mezzanine and PIK securities have principally been used by private equity funds to help finance leveraged buyouts but are increasingly being used as expansion and acquisition capital and to finance recapitalizations.

The Master Limited Partnership Fund is an approximately \$700 million fund that was launched in 2007. The MLP Fund focuses on investing in equity interests of Master Limited Partnerships ("MLPs") and similar entities. The investments are predominantly Private Investments in Public Entities ("PIPEs") and selected pre-IPO investments as well as investments in publicly traded MLPs. The MLP Fund has a more liquid investment strategy than other traditional Lehman Brothers Private Equity products. Additionally, third party investors have liquidity rights semi-annually after an initial lock-up period of two years. The MLP Fund will also accept new capital on a quarterly basis.

Through various funds, Lehman acts as both General Partner ("GP") and as an investor. As GP, Lehman manages the investments and is liable for the actions of the partnership. Lehman receives management fees of 1 to 2 percent of capital contributed, and generally receives 20 percent of profits generated on funds in the form of performance fees. The performance fees are typically only paid when profits are in excess of a "preferred return hurdle" to investors.

Asset Management Seed

Asset Management Seed funds are long only, proprietary Lehman products. These are basically funds where Lehman provides seed capital to develop track records and to achieve critical mass. This industry has historically required a three year performance track record for a product to be successfully marketed. The amount of seed capital required to establish the track record varies depending on the strategy, but the idea is to show investors that Lehman has skin in the game. The minimum level of capital is often determined by the underlying transaction sizes and fixed costs associated with setting up the fund. Once the fund is successful marketed, Lehman's intent is to reduce or eliminate the amount of seed capital held in the fund.

The funds currently invested in by Lehman Brothers Asset Management Seed include:

- Europe Quantitative Funds – are French domiciled funds that use market structure-driven, factor-based models as a means to create more efficient exposures to underlying asset classes and geographies with lower volatilities and improved information ratios. Liquidity on these funds is daily.
- Liberty View Funds – are onshore and offshore single manager hedge funds that offer alternative investments designed to produce the highest absolute rate of return for a given level of risk regardless of market trends. Liberty View Funds LP is a Cayman Islands limited partnership with voting control vested in its General Partner, Neuberger Berman Asset Management, LLC ("NBAM"). NBAM is a subsidiary of Neuberger Berman, Inc., which is a wholly-owned subsidiary of Lehman Brothers Holdings Inc. These funds allow monthly subscriptions and redemptions and typically include six month lock-ups. Liberty View primarily invests in fixed income, equities and associated derivatives. A small percentage of the portfolio may also be invested in private equity and commodities. Foreign exchange is used for hedging purposes and not associated with any active strategy.
- Alpha Funds – are long only fixed income and equity funds. These funds have daily liquidity.
- Neuberger Berman ("NB") Funds – are open and closed end equity, fixed income, and international strategy mutual funds. These funds have daily liquidity.
- LBAIM (FOF) Funds – are proprietary, multi manager, funds that seek long-term capital appreciation while attempting to reduce risk and volatility. Each LBAIM fund invests in hedge fund with slightly different strategies. These funds typically have monthly subscriptions with quarterly or annual redemptions.
- Satori Funds – are funds that seek long-term capital appreciation by investing in the equities of technology and technology related industries. These funds have monthly subscriptions and quarterly redemptions.
- US Quantitative Funds – are managed using forecast-driven, fundamental factor based models. The funds seek to take advantage of opportunities in global stock, bond and currency markets by making relative value plays using a quantitative process. The funds employ global macro and market neutral strategies, and have monthly subscriptions and redemptions.
- CDO Equity – CDO Equity is investment in various classes of securities of collateralized debt obligations, collateralized loan obligations and other structured finance instruments. Eligible investments include both rated and non-rated securities. Rated securities include those rated investment grade and those rated below investment grade.

The table below shows the amount of seed capital provided to each of the fund types. As of 1st quarter end 2007, Quantitative Funds accounted for the largest portion of seed capital investment at 35% of total Asset Management seed capital. In 2006 and the 1st quarter of 2007, Lehman Brothers also increased the seed capital significantly in two other funds—Liberty View Funds and Alpha Funds.

Asset Management Seed (Net Balance Sheet Amounts)

(\$ in millions)

Asset Management Seed	Q105	Q106	Q107	% of Total (as of Q107)	YOY Change (Q105 to Q106)		YOY Change (Q106 to Q107)	
					in \$	in %	in \$	in %
Quantitative Funds	0	0	378	35%	0		378	
Liberty View Funds	40	104	226	21%	64	160%	122	117%
Alpha Funds	0	33	185	17%	33		152	461%
NB Mutual Funds	62	78	86	8%	16	26%	8	10%
LBAIM (FOF) Funds	30	35	84	8%	5	17%	49	140%
Satori Fund	49	61	63	6%	12	24%	2	3%
Global Macro Fund	25	28	27	3%	3	12%	-1	-4%
Market Neutral Fund	0	20	24	2%	20		4	20%
CDO Equity	0	0	5	0%	0		5	
Total Asset Management Seed	\$206	\$359	\$1,078	100%	\$153	74%	\$719	200%

Capital Request Oversight – Capital requests for Asset Management Seed capital are submitted to the Investment Management Department Capital Management Team (“IMD CMT”), which evaluates the request and makes a recommendation to the IMD Executive Committee who approves or disapproves the request. The IMD CMT is led by Andrew Komaroff, the head of Asset Management Seed, and includes representatives from Finance, Risk Management, and IMD Strategy. Capital requests are evaluated for business purpose, operational and risk management, and length of commitment. The capital request process is accountable to, and overseen by, Dave Goldfarb, the Global Head of Principal Investing.

Capital Risk Oversight – IMD CMT is responsible for oversight, which includes risk monitoring and reporting, of seed capital positions while Global Risk Management reviews seed positions daily. Risk Management calculates risk levels for fund investments using a “look-through” process when feasible. The firm uses the look-through process for approximately 47% of asset management seed capital. Where full look through is not used, either historical volatility of the fund or a proxy is used, which are used on 40% and 13% of seed capital respectively.

Risk limits for seed capital investment are established in alignment with Lehman’s overall risk appetite methodology. Risk Appetite limits for the four Principal Investing businesses (Private Equity, Asset Management Seed, Strategic Minority Stakes, and Corporate Investments) are monitored on two levels: IMD (Investment Management Division) and Direct Principal Investments—\$800 million at the IMD level and \$190 million on Direct Principal Investments.

To mitigate systematic risk, Lehman puts on index hedges when it is appropriate. The Firm has not historically hedged below the macro level, but is looking to put on hedges where there are single investment strategies that they can get simple hedges for. For example, they might use simple index hedges to mitigate exposure in a high-yield macro hedge fund.

Strategic Minority Stakes

Lehman Brothers views Strategic Minority Stakes differently than Private Equity investments in that they do not invest with an exit strategy in mind (i.e., “the investment is never purely about the cash out”). Because of this, Lehman wouldn’t pay top dollar for a Strategic Minority Stake based on an exit at some point in the future. Instead, the Firm treats, and values, these investments as a portfolio that provides revenue and diversification across various strategies and fund managers.

Total investment in Strategic Minority Stakes is relatively small compared to Private Equity and Asset Management, but the increase in the net balance from \$88 million in the 1st quarter of 2006 to \$420 million in the 1st quarter of 2007 was significant. A substantial portion of the \$420 million was made in Spinnaker Capital.

Strategic Minority Stakes (Net Balance Sheet Amount)

(\$ in millions)

Strategic Minority Stakes	Q105	Q106	Q107	% of Total (as of Q107)	YOY Change (Q105 to Q106)		YOY Change (Q106 to Q107)	
					in \$	in %	in \$	in %
Marble Bar	0	19	89	21%	-1	-5%	70	368%
Ospraie	0	42	78	19%	-19	-31%	36	86%
GLG	0	27	27	6%	-4	-13%	0	0%
Spinnaker Capital	0	0	226	54%	0		226	
Total Strategic Minority Stakes	\$0	\$88	\$420	100%	-\$24	-21%	\$332	377%

Spinnaker Capital was founded in 1999 and is active in fixed income emerging markets trading across Asia, Eastern Europe, and Latin America. Spinnakers has three key products—Global Opportunity, Global Emerging Markets, and Global Strategic. The firm is headquartered in London and has \$5.4 billion in assets under management. Lehman Brothers provided \$226 million in capital to Spinnaker and, in exchange, receives 20% of profits. Lehman holds an option to invest additional capital to increase their share of profits to 25%. Through the 1st quarter of 2007, net revenue from the Spinnaker stake was a \$1 million loss for Lehman.

Marble Bar Asset Management is Lehman's second largest Strategic Minority Stake with \$89 million invested as of February 28, 2007. Marble uses a proprietary trading system for trade ideas and portfolio management in its long/short equity products. Marble's geographic focus includes Europe and Australia. The company is headquartered in London and has \$2.8 billion in assets under management. Lehman receives 20% of profits which amounted to \$7 million in the 1st quarter of 2007 and \$28 million in 2006.

Ospraie Management was launched in February of 2000 as part of Tudor Investment Corp., but became an independent business in January of 2004. As of February 28, 2007, Lehman's investment was \$78 million, and they receive 20% of profits. Ospraie is headquartered in New York, has \$5 billion in assets under management, and primarily focuses on basic industries, commodities and related sectors. Lehman received \$16 million in revenue in 2006 and \$2 million in revenue in the 1st quarter of 2007 from their Ospraie minority stake.

GLG Partners is Lehman's smallest minority investment at \$27 million, but because of the comparatively large size of assets under management, is more profitable than all other minority stakes. GLG Partners was founded in 1995 as a division of Lehman Brothers and restructured into a separate entity in 2000. The company is headquartered in London and is one of the largest alternative investment managers in Europe with \$15.4 billion in assets under management. GLG's key products include a Market Neutral Fund, a Global Convertible Fund, and a European Long/Short Fund. In exchange for their capital investment, Lehman receives 18% of profits. In 2006, net revenue from GLG was \$28 million, which was 39% of the total Strategic Minority

Stake revenue of \$72 million. For the 1st quarter of 2007, GLG revenue was \$15 million (accounting for 65% of Strategic Minority Stake’s total revenue).

Corporate Investing

Lehman Brothers’ Corporate Investing encompasses three types of investments: (1) Limited Partnership (“LP”) investment in third party asset management firms and hedge funds; (2) LP investments in third party private equity funds; and (3) direct investments. Corporate Investing may be done either in conjunction with the Private Equity division, or on an independent basis. Approval for Corporate Investing goes through the Investment Committee process as outlined in the “Investment Approval Process” section above.

As can be seen in the table below, the largest Corporate Investing category (when measured by net balance sheet amount or year-over-year dollar growth) is LP Investments in Third Party Asset Management and Hedge Funds, which as of 1st quarter end 2007 had a net balance sheet amount of \$303 million (which was 40% of total Corporate Investment’s balance sheet). These investments are typically made to help launch a fund through a partnership agreement and/or to provide seed capital to previous Lehman employees seeking seed capital to start their own fund. Lehman also uses this business to gain exposure to funds in regions such as India. Current funds include Ospraie Multi Strategy Fund (a fund Lehman agreed to help launch and take a partnership in), CQS (which was done to help an ex-Lehman employee with seed capital), Taj Capital (in India), and other small funds.

Corporate Investing (Net Balance Sheet Amounts)

(\$ in millions)

Corporate Investments	Q105	Q106	Q107	% of Total (as of Q107)	YOY Change (Q105 to Q106)		YOY Change (Q106 to Q107)	
					in \$	in %	in \$	in %
LP Investment in Third Party AM and HFs	0	111	303	40%	111	NA	192	173%
LP Investment in Third Party Private Equity Funds	30	59	242	32%	29	97%	183	310%
Blue Ray Shares	0	0	65	9%	0	NA	65	NA
Pirelli Tyre	0	0	79	10%	0	NA	79	NA
Gulfmark	65	66	73	10%	1	2%	7	11%
Total Corporate Investments	\$95	\$236	\$762	100%	\$141	148%	\$526	223%

Most LP Investments in Third Party Private Equity funds are done in excess of FoF investments that are undertaken by the Private Equity division. For example, Private Equity might only be able to invest \$50 million into a KKR fund while KKR requested a \$75 million investment. Corporate Investing might then agree to make the remaining \$25 million investment. Investments include well know Private Equity names such as KKR, Blackstone, Carlyle Capital, Fortress, and Warburg Pincus. Decisions to invest in a third party fund are not reached purely on the basis of return. Evaluation and allocation of these investment opportunities also will be based on the rationale for the investment. In addition to attractive risk-adjusted returns, the rationale for the investment also may include strategic objectives and relationship management (including future revenue opportunities with such Fund).

Corporate Investing currently has three direct corporate investments—Blue Ray, Pirelli Tyre, and Gulfmark. Blue Ray is a publicly traded UK hedge fund in which Lehman owns shares, the

Pirelli Tyre investment is a minority stake in the Pirelli tire company, and Gulfmark investment is a direct investment in an oil services company. All three investments are carried at fair value.

Risk Management

Risk Management for Principal Investing is headed up by Chris Van Buren, the Global Head of Risk Management for Investment Banking. Mr. Van Buren reports to the Chief Risk Officer, Madelyn Antoncic, and not to Lehman Investment senior management.

Risk Monitoring and Management

The primary metric for monitoring and managing risk in Principal Investing is “Risk Appetite.” The method for calculating Risk Appetite is driven by the type of principal investment and, more importantly, the level of transparency into the assets underlying the investment. Risk Appetite for all asset classes is calculated at the 95% confidence level.

For Asset Management seed capital and publicly traded stock in Private Equity funds, Lehman uses historical simulation of actual investments or underlying positions to calculate Risk Appetite. Lehman uses specific security analysis involving calculation of default loss using binomial distribution methodology for CDO and components of the European Mezzanine Fund. For Merchant Banking, Real Estate, and components of the European Mezzanine Fund, the Firm uses a Cambridge economic time series that has been adjusted to be more usable. In situations where there is no, or very little, transparency (i.e., hedge fund minority stakes, outside hedge fund LPs, JVs, and certain Private Equity holdings), Lehman uses a market volatility proxy to generally represent the risk of these positions.

Risk Appetite is monitored and managed in two major categories—Lehman Brothers Private Equity and Other Principal Investments. Other Principal Investments includes Asset Management Seed, Strategic Minority Stakes, Corporate Investments, and third party seed capital. As of November 30, 2006, total Risk Appetite for Private Equity and Other Principal Investments were \$436 million and \$117 million respectively. Of the \$436 of Private Equity Risk Appetite, \$398 million was in the Americas and \$40 million was in Europe. For other Principal Investments, \$106 million was in the Americas and \$28 million was in Europe. The Risk Appetite limit is currently set at \$650 million.

Capital Treatment

For capital calculation, Lehman calculates capital based on a 100%, 300%, or 400% risk weighting. 100% risk weighting was applied to all assets purchased prior to November 30, 2005. For investments made post November 30, 2005, the Firm applies either a 300% risk weighting for direct public investments or a 400% risk weighting for non-direct public investments. The table below provides a break down, by Principal Investing type, for each of the risk weighting buckets.

Commitments to invest at some time in the future are assigned a risk weighting equivalent to 50% of the risk weighting that will be used when the commitment is funded.

(\$ in millions)

	Capital Charges			
	100% Weight	300% Weight	400% Weight	Total
	(pre-11/05)	(post-11/05 direct public)	(post-11/05 non- direct public)	Capital Charge
LB Private Equity	\$ 126	\$ 16	\$ 397	\$ 539
LB Asset Management Seed	\$ 29	\$ -	\$ 146	175
Strategic Minority Stakes	\$ 8	\$ -	\$ 22	30
Corporate Investments	\$ 20	\$ -	\$ 88	108
Total	\$ 183	\$ 16	\$ 653	\$ 852

APPENDIX E: TRADITIONAL ACCOUNTING METHODS

Consolidation Method: The consolidation method is generally used when the investor has the ability to exercise substantial control and direction of an entity. Commonly, this is demonstrated by acquiring over 50% ownership interest. For financial statements presentation, the investee's assets, liabilities, income and expenses are combined into the investor's balance sheet and income statement. In addition and if applicable, an offsetting entry representing the ownership of the minority investors is made within the stockholder's equity section.

Equity Method: The equity method is generally used when the investor has the ability to exercise significant influence over an entity but does not have the definitive decision making controls. The application of this method is normally presumed when an investor owns more than 20% interest but less than 50% interest and the investment is not publicly traded (e.g. no observable price). For financial statements presentation, the investment is recorded as an asset on the balance sheet at the purchase price. Over a period of time, the asset is adjusted upwards for its percentage of profits or downwards for its percentage of losses to approximate the investment's appreciation or depreciation. Furthermore, the share of profits and losses is immediately recognized and included in the income statement.

An additional adjustment to the asset is also made when dividends are issued. When a dividend is declared and issued, the asset is reduced for its share to reflect the reduction in the investee's book value. Since the investor has already recognized its share of the investee's profits, dividends are not recognized as part of the firm's profits and losses. Since the equity method uses the investee's financial performance as a proxy for the value of the investment, there is a possibility that the investment's accumulated losses could exceed the initial purchase price. In such a case, the investment account can not be reduced to below zero. Accumulated losses that exceed the initial purchase price are monitored off balance sheet until enough profits are realized to bring the carrying value to above zero.

Cost Method: The use of the cost method is generally used when the investor does not have significant influence over the investments, usually a less than 20% ownership interest. For financial statements presentation, the investment is recorded on the balance sheet at the purchase price less any adjustments made for impairments. Income is only recognized when dividends are issued.